1946

A study of the occupational choices of senior students at Modesto High School and some of the salient factors affecting those choices

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A

STUDY OF THE OCCUPATIONAL CHOICES OF SENIOR STUDENTS AT MODESTO HIGH SCHOOL AND SOME OF THE SALIENT FACTORS AFFECTING THOSE CHOICES

by

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Stockton, California

1946

A Thesis

Submitted to the Department of Education

College of the Pacific

In partial fulfillment

of the

Requirements for the

Degree of Master of Arts

APPROVED

J. William Harris

Chairman of the Thesis Committee

DEPOSITED IN THE COLLEGE LIBRARY:

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INTRODUCTION

1. The Problem

This study is concerned with the problem of occupational choices of high school students and the interplay of the various factors which enter into those choices.

2. Interest in the Problem

Interest in the problem was aroused by the writer's contact with students as a counselor. Certain observations were made as a result of these experiences. Some students seemed to be deeply concerned about the choice of a vocation, sought help and guidance, and planned their high school course in line with their chosen vocation. Other students shifted their choice from one vocation to another, apparently unable to make a definite decision for any particular calling, while still others seemed content to drift aimlessly through high school, giving little thought to the choice of a vocation.

It was further observed that choices were made, changed, or held in abeyance, as the result of the interplay of various intrinsic and extrinsic factors in the lives of these young people.

As a result of these and other observations, a need was felt for more objective data on the problem of occupational choices of high school students. Although a great number of helpful studies have already been made in this field, it was still felt that certain data, applicable to the local situation, were not available. This study was undertaken, therefore, with the aim of securing information which would help the counseling staff to better understand and meet the vocational problems encountered by students at Modesto High School.

3. Procedure

In order to secure a representative sampling of student reaction, a vocational analysis questionnaire[1] was drawn up and submitted to the senior class of 1945. The questionnaire was completed by 318 seniors under the personal supervision of the writer. Both oral and written directions were given to the students so that there would be no misunderstanding on their part as to the import of the various questions and the way the information given would be used.

The seniors were selected as subjects for this study because they were facing the problem of occupational choice more immediately than were the three other classes, and because their time in high school had been of longer duration and would, therefore, furnish a more complete picture of student planning towards a vocation.

In addition to the questionnaire, further information was secured from the office files of Modesto High School, the Modesto Chamber of Commerce, and the State Department of Education at Sacramento.

[1] See Appendix A for a copy of the questionnaire.

CHAPTER I

THE SENIOR CLASS, ITS SCHOOL ENVIRONMENT AND BACKGROUND

The subjects in this study include 318 senior students, 196 girls and 122 boys. These students ranged in age from fifteen to twenty-one years, the large majority being between sixteen to eighteen years of age (Table I). The few over-age students have had their education interrupted because of illness, moving, or work.

TABLE I

Age Distribution of the Senior Class

Age	Number of students	Per cent
15*	1	.3
16	61	19.2
17	206	64.8
18	42	13.2
19	5	1.6
20	2	.6
21	1	.3
Totals	318	100.0

*Age 15 should be read to include students from 15-0 to 15-11; the other ages in like manner.

All students have been given one or more intelligence tests while in high school. For the sake of consistency, only the most recent test scores were used as shown on the Otis Self-Administering

Test of Mental Ability, Higher Examination. The distribution is shown in Table II.

TABLE II

Pupil Distribution by Intelligence Quotients

I. Q.	Number	Per cent
130-139	2	.6
120-129	15	4.7
110-119	70	22.0
100-109	101	31.8
90-99	92	29.0
80-89	30	9.4
70-79	8	2.5
Totals	318	100.0

Median I. Q. 102.4

Although the median I. Q. is about what one would expect in an unsegregated group of this size in a secondary school, it should be noted that there are more cases in the two lower steps of the distribution than in the two top steps. The vocational choices of some of these most able and least able students are of interest and will be considered in Chapter II.

Curricular offerings at Modesto High School are grouped into eight major divisions or courses: agriculture, art, commercial,

home economics, general academic, music, trades and industry, and university preparatory. A student must complete a minimum of fifty semester periods[1] of work in the course of his choice in addition to the basic requirements of English, social studies, science, and physical education which all must complete. The minimum number of semester periods required for graduation is 190.

The term "university preparatory" has been used advisedly at Modesto High School rather than "college preparatory" to avoid confusion in the minds of students between the entrance requirements of the local junior college and the four-year collegiate institutions. The number enrolled in the university preparatory course (Table III) compares reasonably well with the proportion of the graduates who seek further education, although it is considerably above the number who actually graduate from college or university. For instance, of this class of seniors, seventy-seven have signified their intentions of attending Modesto Junior College in the fall, while approximately ten plan to go directly to four-year colleges.

The term "general academic" is somewhat of a misnomer for this course as set up at the present time. It was originally used to designate those students who wished to take academic work, but who failed to meet university requirements, either because of lack of ability or effort. Of late the course has been broadened to include subjects other than the strictly academic ones, so that a student taking the general academic program can sample rather widely. It

[1] A semester period represents one hour of attendance per week for a semester.

TABLE III

Pupil Distribution by Course of Study

Course	Girls		Boys		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Agriculture	1	.5	14	11.5	15	4.7
Art	2	1.0	1	.8	3	.9
Commercial	79	40.3	8	6.6	87	27.4
General Academic	36	18.4	30	24.6	66	20.8
Home Economics	28	14.3	0	0.0	28	8.8
Music	1	.5	1	.8	2	.6
Trades & Industry	0	0.0	31	25.4	31	9.8
University Preparatory	49	25.0	37	30.3	86	27.0
Totals	196-	100.0	122	100.0	318-	100.0

would probably be more accurate to designate it as a general course and drop the word "academic" altogether. There is need for revision in this course with more emphasis upon citizenship and the practical arts. As set up now, the course is a "catch-all" and does not stimulate students to do their best work. In fact, some of the more capable students select this course in order to avoid the more stringent requirements of the university preparatory course.

An examination of Table III shows a very low enrollment in art and music. These courses are quite specialized and intensive so that only students with a high degree of talent in these fields select them as majors. However, many students in other courses choose classes in art and music as electives so that a good proportion of the student body profits from these cultural offerings.

The enrollment in the agricultural course includes one girl. This particular girl is interested in stock raising, and unlike other girls who have started out in the agricultural course and then dropped out, she was determined to finish, even though she was the only girl in the department. She has married since entering high school but plans to graduate. Only 11.5 per cent of the boys in the class have chosen agriculture, whereas 25.4 per cent of the fathers of the seniors are farmers or farm laborers (Table V). The diversified type of farming carried on in this area can support a large number of farm families. The greatest number of job possibilities in Stanislaus County is in the field of agriculture. Year around jobs on farms call for 5,000 laborers, while seasonal work demands 6,000 additional workers.[1]

[1] Modesto Chamber of Commerce figures.

A realistic program of guidance is needed in the local schools, starting in the elementary grades, in order to acquaint students with the great need for trained agriculturalists and the large number of job possibilities in this field.

In the commercial course the majority are girls, only 6.6 per cent of the boys having chosen this field. The commercial program at Modesto offers three rather specialized courses: secretarial, store service, and bookkeeping. Students select one of the three as their major, but may sample in the other two commercial fields as well. At the current rate of expansion in retail trade and industrial development in the Modesto area, these students should have no difficulty in finding jobs. Employment figures for Stanislaus County (Table X) show that 24.2 per cent of employed women are working at clerical or sales jobs.

The home economics course shows only 14.3 per cent of the senior girls majoring in this field. There is no home economics requirement for all girls, but a number from other courses elect one or more home economics subjects, so that the number of girls enrolled in the department runs between 400 to 450 in any given semester. However, the number who receive a well-rounded program as home economics majors is too low. Since most girls will eventually become homemakers, larger numbers should be encouraged to take advantage of the offerings in home economics. A certain amount of stigma has become attached to the vocational courses in the high school with the result that many of the abler students avoid them.

The boys in the trades and industry course receive prevocational

and vocational training in a number of mechanical fields: aeronautics, automobile mechanics, carpentry, printing, machine shop, and electricity. One-fourth of the senior boys (25.4 per cent) selected these mechanical trades as their major field of study. This number compares favorably with the proportion of Stanislaus County men who are engaged as craftsmen and operative (21.7 per cent).[1]

It should be noted that the number of students enrolled in any given course is not an accurate measure of their vocational plans. Some students plan to enter vocations far removed from the field in which they have taken their training, but, in the main, student responses on the questionnaire showed that they have planned their high school work in line with their occupational choice (Table XIII).

The maximum enrollment at Modesto High School for the year 1944-45 was 2,140, with an average daily attendance of 1,770. Students come from the city of Modesto and from fourteen outlying elementary school districts within the Modesto High School District. Twelve of these outlying schools are in rural districts and are two or three-teacher schools. The two schools in the towns of Salida and Empire have larger enrollments and employ a number of teachers. There are seven elementary schools in Modesto, which carry students through the sixth grade. Students are then sent to the centrally located Roosevelt School for departmentalized work in the seventh and eighth grades. There are no junior high schools in the Modesto High School District, the schools being organized on the 8-4-2 plan.

[1] Stanislaus County employment figures based on 1940 United States Census.

As a means of determining the relative number of students coming from rural areas and towns, they were asked to include on the questionnaire the name and location of the last elementary school attended. A check of their responses showed that of the 318 students, 167 or 52.5 per cent have attended the Roosevelt School in Modesto, sixty-three or 19.9 per cent come from the fourteen outlying schools in the district, while the remaining 27.6 per cent attended elementary schools in other parts of California or in other states. Of this 27.6 per cent, 24.2 per cent are from town or city schools and 3.4 per cent from rural schools. It can be readily seen that the students from urban areas far outnumber the rural group. Excluding the students from the towns of Salida and Empire, the rural students comprise only 17.9 per cent of the group.

A number of these rural students have had the same elementary teacher for several years. She has come to know her students intimately, and they in turn have looked to her for guidance and counsel. When they come to high school, they are confused by the complex program and division of responsibility among the school staff. They feel lost, but are timid about asking for help. Although a representative from the high school staff visits each of the rural schools in the spring and helps the eighth grade students plan their courses for the first year in high school, there is need for more follow-up of these students during their period of adjustment in the ninth grade. Student comments on the help received in high school, as given in Chapter IV, reveal their ideas on this problem.

The transfer students also have their difficulties. They are at

a disadvantage not only when it comes to finding continuity in subject matter offerings, but also in their opportunities for becoming sufficiently well acquainted with their teachers and counselors so that they feel free to go to them for help. Modesto has had an appreciable number of transfer students because of the war emergency and the seasonal work in the fruit which brings transient families into the area. In this group of seniors, eighty-one or 25.5 per cent are transfers, sixty-four having attended one other high school previously, and seventeen having attended two or more high schools in addition to Modesto.

Provision for student counseling is made through the services of advisory teachers and counselors. Every student is assigned to an advisory group which meets for thirty minutes at the beginning of each school day. Practically all of the seventy-one full-time teachers serve as advisers. A few who have other responsibilities do not have advisories.

Because an extensive section of the main building has been condemned as unsafe for occupancy, it has been necessary to house around 400 students at the junior college building for the past two years. Fifteen faculty members and one administrator handle this group of students.

This division of the school makes it difficult to coordinate the classroom program and counseling services. Furthermore, the limited number of classrooms at the high school makes it impossible to keep all advisory groups down to a size commensurate with best practice. In order to get every student into an advisory group, it has been

necessary to have the first period teacher act in the capacity of adviser for his class. This means that study hall groups and physical education classes, which number between fifty and one hundred students each, must be treated as advisory groups.

One hour and a half is allowed for the advisory and first period class, so that teachers will have the normal length of time for classroom instruction following the advisory period. The advisory period is not only used for counseling, but also for student body activities, class meetings, general assemblies, and such routine matters as checking attendance and making announcements. No organized program of guidance is followed in the advisory groups, except during those periods of the year when students are planning their programs for the subsequent semester. All students, under the guidance of the adviser or ninth-year civics teacher, plann a four-year program. These programs may be changed from time to time, if it is evident that the original plan is not in line with the student's capabilities or interests. A copy of this four-year program follows the student when he changes from one advisory to another. The amount of help and counsel which is given in these advisory groups depends largely upon the interest and initiative of the teacher in charge.

In addition to the services of the advisers, five members of the administrative staff give part of their time to counseling. The principal and boys' vice principal share the responsibility for guidance of the boys, while the girls' vice principal and an assistant counselor work with the girls. The last mentioned counselor also acts as senior adviser, checks credits, and maintains the personnel records.

The administrator at the junior college acts as general counselor to the students there. About two-thirds of his day is free for counseling.

A building program which will alleviate the present overcrowded conditions and provide adequate facilities for an additional 800 students has been worked out in detail by the Board of Education. As soon as materials are available, the building program will be started. At the present rate of population growth in the Modesto area, the school administration estimates that the student body at the high school will total about 2,800 within the next five to ten years.

Records at the local Chamber of Commerce show a population increase within the corporate limits of Modesto of between 4,000 and 5,000 persons in the last five years. The 1940 census records a population of 16,379 within Modesto city limits. By 1945 this number had increased to 21,000. The greatest population increase, however, has occurred within a two-mile area surrounding the city limits. Approximately 14,000 people now live in this adjoining area, many of them in very inadequate shelters.

The present rate of population increase in this area is anticipated to continue. War workers and veterans are in the market for small farms or suburban plots. More industries are coming, particularly food processing plants. Three of these plants are now under construction, and others have plans completed. It appears, therefore, that the recent arrivals in this area as well as the students graduating from our schools should have a reasonable chance for employment within the community.

CHAPTER II

THE OCCUPATIONAL CHOICES OF SENIORS AND SOME OF THE FACTORS INFLUENCING THOSE CHOICES

In this chapter consideration will be given to the responses which students made to a series of questions (number 5 to 16) dealing with problems of vocational planning. These questions were designed to furnish data as to: the kinds of occupations chosen, when such choices were made, the relative permanency, or transiency, of such choices, the degree of realism exhibited in students choices, and the salient factors influencing their choices.

1. Occupational Choices of Senior Boys

For purposes of classification and comparison, the occupational groupings as given in the Sixteenth Census of the United States (1940)[1] have been followed in this study. Other classifications, which were simpler or more inclusive, might have been used, but it was felt that the census classification gave a more detailed and accurate breakdown of occupations.

In this class of 318 seniors, 189 or 59.4 per cent stated that they had made a vocational choice; the remaining 129 or 40.6 per cent gave a negative answer, although some were apparently on the verge of a decision as shown by their reactions to other questions.

The number of boys having a vocational choice included seventy-six out of 122, or 62.2 per cent. A distribution of their vocational choices, classified according to the census divisions, is shown in

[1] See Appendix B for the United States Census classification of occupations.

Table IV. Since the questionnaire was distributed while World War II was still in progress, the majority of these senior boys expected to enter the armed forces immediately after graduation, if not sooner; their vocational plans, therefore, were tentative. In order to avoid an undue number of answers giving military service as the immediate occupation, students were asked to give their long-term plans by naming the occupation they intended to follow when peace was restored.

The number of students choosing professional and semi-professional careers was larger than that of any other group. This is not peculiar to the local situation, for other studies on occupational choices of students have shown a similar gravitation to the professional fields. Undoubtedly students aim toward the "white collar" jobs because of the greater prestige which these callings offer and the desire of parents to have their children escape the sweat and toil which they have endured.

If a comparison is made between the number of boys planning to enter the professional and semi-professional fields and the occupations of their fathers (Table V), a great discrepancy will be noted. Although 25.4 per cent of the boys have chosen professional and semi-professional occupations, only 3.3 per cent of their fathers are engaged in these pursuits. A check of the fathers of the entire group of 318 students shows a similar figure, 3.8 per cent being in professional and semi-professional occupations.

Under normal conditions, it is to be expected that most of these students will find their places in the local community or within the State of California. Even with the increased mobility of our

TABLE IV

Occupational Choices of Senior Boys

Occupational group	Number	Per cent of boys with choice	Per cent of all boys
Professional and semi-professional	31	40.8	25.4
Farmers and farm managers	11	14.5	9.0
Proprietors, managers, and officials	4	5.3	3.3
Clerical, sales and kindred workers	7	9.2	5.7
Craftsmen, foremen, and kindred workers	21	27.6	17.2
Operatives and kindred workers	1	1.3	.8
Domestic service workers	0	0.0	0.0
Protective service workers	0	0.0	0.0
Service workers except domestic	1	1.3	.8
Farm laborers	0	0.0	0.0
Laborers, except farm and mine	0	0.0	0.0
Totals	76	100.0	62.2

TABLE V

Occupational Choices of Boys Compared with Occupations of Fathers

Occupational group	Per cent boys	Per cent fathers (boys only)	Per cent fathers (boys and girls)
Professional and semi-professional	25.4	3.3	3.8
Farmers and farm managers	9.0	27.9	23.2
Proprietors, managers, and officials	3.3	21.3	18.2
Clerical, sales etc.	5.7	5.7	6.3
Craftsmen etc.	17.2	14.8	17.3
Operatives etc.	.8	10.7	8.8
Domestic service	0.0	0.0	0.0
Protective service	0.0	.8	2.2
Service workers except domestic	.8	3.3	3.2
Farm Laborers	0.0	0.0	2.2
Laborers, except farm and mine	0.0	5.7	4.1
Occupation not reported	---	.8	1.9
Deceased	---	5.7	8.8
Totals	62.2	100.0	100.0

Note: Percentages for boys are based on the whole group of 122 boys, 62.2 per cent of whom had a vocational choice. See Table IV. The occupational distribution for the fathers of the 122 boys is given separately from that for the fathers of the entire group of 318 students.

population, the majority of these students will, undoubtedly, remain within the state. A comparison was made, therefore, between the labor force of Stanislaus County and California and the occupational choices of students.

The 1940 United States Census[1] occupation figures for Stanislaus County and California men (Table VI) show 4.5 per cent and 7.6 per cent of the adult male population, respectively, engaged in the professional and semi-professional fields whereas 25.4 per cent of the boys were planning for these occupations. It is evident that there will need to be some readjustments made in the plans of these students. Even if they all possessed the necessary qualifications for success in the fields they have chosen, it is still highly improbable that there will be a sufficient number of openings for them under a peacetime economy.

This trend towards the professions has its roots in our democratic philosophy whereby every boy, theoretically at least, has a chance to be president. Both the home and the school have encouraged students to "aim high," placing undue emphasis upon the more glamorous and lucrative jobs. There is need for a re-interpretation of success, not in terms of prestige and dollars and cents, but in terms of a productive job well done.

With the exception of the craftsmen group, which was fairly well in line with local as well as state figures, all other remaining occupational choice groups for boys fell below the percentages reported for the local adult male population (Table VI).

1 United States Department of Commerce, Population, The Labor Force, 3rd Series, California, pp. 22-23.

TABLE VI

Occupational Choices of Boys Compared with 1940 United States Census Employment Figures for Men in Stanislaus County and California

Occupational group	Per cent boys	Per cent Stanislaus County men	Per cent California men
Professional and semi-professional	25.4	4.5	7.6
Farmers and farm managers	9.0	26.0	5.2
Proprietors, managers, and officials	3.3	10.2	12.6
Clerical, sales etc.	5.7	9.8	16.2
Craftsmen etc.	17.2	10.7	16.7
Operatives etc.	.8	11.0	16.2
Domestic service	0.0	.2	.5
Protective service	0.0	*	3.3
Service workers excluding domestic	.8	4.1	6.2
Farm laborers	0.0	16.6	7.1
Laborers, excluding farm and mine	0.0	5.6	7.8
Occupation not reported	---	1.3	.6
Totals	62.2	100.0	100.0

Note: Percentages for boys are based on the whole group of 122, 62.2 per cent of whom had a vocational choice. See Table IV.

* Included in service workers.

The farm group among the boys was only about one-third, proportionately, of the farm group among the parents. Further, if we compare the 9.0 per cent of future farmers with the adult male population of Stanislaus County, we find a similar situation. If 16.6 per cent is added to the adult farm group by including the farm laborers (Table VI), the discrepancy becomes even greater. No boys were planning to be farm laborers despite the fact that the greatest number of job possibilities are on farms. Since the greatest number of job opportunities in the county is in agriculture, this situation should be made known to students. The advantages of farm life should also be pointed out to students. Students tend to place too much emphasis upon the hard work and the confining hours of the farmer.

The proportion of managers and proprietors was greater among the fathers than in either the student or Stanislaus County group. This is rather to be expected since Modesto is the largest city in the county and has more men engaged in business and retail trade than does the county as a whole. Although only 3.3 per cent of the boys are included in this group, undoubtedly more will find their way into business, some on their own initiative, some as a result of falling heir to their father's investments.

With the increasing number of industries coming to Modesto, the number of operative workers will grow. Boys, and girls, with mechanical skills should find a variety of jobs open for them. At present there are 6,000 permanent jobs in industry in the Modesto area.[1] The meager showing among students for operative vocations is due, perhaps,

[1] Modesto Chamber of Commerce figures.

more from a lack of knowledge of these job possibilities than from a distaste for them.

No student choices were recorded for domestic service, protective service, farm labor, or general labor. The number of men who find their way into these occupations, judging from local and state occupational figures, is somewhat over one-fourth of the total. Of these four occupational groups, the farm labor group is the largest locally (16.6 per cent). It seems reasonable to predict that a number of students, although not choosing these occupations, will drift into them because of lack of training for other jobs, or from economic necessity.

Table VII presents a list of the specific occupations chosen by the boys, distributed according to frequency of choice. It will be noted that although farmers head the list, they comprise only 14.5 per cent of the seventy-six boys having a vocational choice.

All types of engineering have been grouped under one category. The specific fields chosen and the number of choices for each were as follows: electrical engineering, 5; mechanical engineering, 2; aeronautical engineering, 1. The two remaining students did not specify the particular field of engineering they intended to follow.

The number of boys selecting radio broadcasting is worthy of note. This interest was undoubtedly due to the fact that students in the public speaking classes have been given experience in radio techniques by participating in a weekly school radio broadcast over a local station. Some of these students have shown real talent for this type of work.

Of the three boys aspiring to be artists, only one specified the

TABLE VII

Occupational Choices of Boys
Distributed According to Frequency

Occupational choice	Number	Per cent
Farmer	11	14.5
Engineer	10	13.2
Mechanic	7	9.2
Radio announcer, commentator etc.	4	5.3
Salesmen	4	5.3
Airplane pilot	4	5.3
Artist	3	3.9
Machinist	3	3.9
Lawyer	2--(2.63%)	
Photographer	2	
Scientist	2	
Proprietor, retail store	2	15.8
Clerical worker	2	
Carpenter	2	
Professional athlete	1--(1.31%)	
Writer	1	
Physician	1	
Forest ranger	1	
Journalist	1	
Minister	1	
Psychologist	1	
School teacher	1	
Proprietor, wholesale concern	1	
Publicity manager	1	23.6
Secretary	1	
Automobile body builder	1	
Electrician	1	
Painter	1	
Railroad fireman	1	
Officer, Maritime Service	1	
Scavenger	1	
Totals	76	100.0

Note: Percentages are based on those who gave an occupational choice, not the entire group.

branch of art he wishes to follow; namely, commercial art. The other two students merely stated that they had selected art as a career.

The two boys planning to be scientists did not give the field of science they wishes to enter. Since their experiences in science, to date, have been somewhat limited, it is possible that they felt incapable of deciding upon a specific field. Both boys have good intelligence; one, in fact, has decidedly superior mental ability.

In three instances boys were planning to continue in their father's business, two of them in retail trade, and one with a wholesale concern.

The number choosing mechanical pursuits was quite large: 7 mechanics, 4 airplane pilots, 3 machinists, 2 carpenters, 1 painter, 1 printer, 1 electrician, 1 automobile body builder, 1 railroad fireman, besides other occupations which also require a certain amount of mechanical aptitude. The extensive program offered by the high school in the various mechanical fields has, in all probability, contributed to this wide sampling.

As shown by Table VII, the boys have chosen quite a wide variety of occupations, but the pull towards the professional and semi-professional groups is very evident.

2. Occupational Choices of Senior Girls

Of the 196 girls included in this study, 113 or 57.6 per cent gave an occupational choice. As shown in Table VIII the large majority have chosen the professional and clerical fields, the two recognized career areas for women. A listing of the specific occupations chosen will be found in Table XI.

TABLE VIII

Occupational Choices of Senior Girls

Occupational group	Number	Per cent of girls with choice	Per cent of all girls
Professional and semi-professional	57	50.4	29.1
Farmers and farm managers	1	.9	.5
Proprietors, managers, and officials	0	0.0	0.0
Clerical, sales etc.	47	41.5	24.0
Craftsmen etc.	0	0.0	0.0
Operatives etc.	3	2.7	1.5
Domestic service	0	0.0	0.0
Protective service	0	0.0	0.0
Service workers, excluding domestic	2	1.8	1.0
Farm laborers	0	0.0	0.0
Laborers, except farm and mine	0	0.0	0.0
Housewife	3	2.7	1.5
Totals	113	100.0	57.6

If we compare the girls' choices with the occupations of the mothers (Table IX), or with the employment figures for women in Stanislaus County and California (Table X), some interesting situations are revealed.

Since the students were asked to give only the mother's present occupation, if gainfully employed, no record of past job experiences of these mothers was secured. Although most of the mothers are now homemakers, an appreciable number must have been employed in the past. The comparison, therefore, between the students' choices and the present occupations of the mothers is necessarily incomplete and of limited value, but the jobs now held by the mothers is somewhat indicative of the present job possibilities for women in the community. Most of the mothers are employed in the professional, clerical, or service workers field. Those in the professions include 6 teachers, 5 nurses, and 2 social service workers. Among the sixteen service workers we find 9 cooks, 3 hospital aids, and one each of a variety of occupations such as waitress, custodian, and practical nurse.

A comparison of the choices of senior girls and the occupations of mothers shows a larger proportion of girls planning for the professions than there are mothers so employed at present, whereas in the clerical and service workers fields there are fewer student choices, proportionately, than there are parents employed. It should also be noted that although no girls indicated their desire to become laborers, ten mothers are doing unskilled work. One point which should not be overlooked is that a number of these mothers are working at routine jobs, not from choice but because of economic necessity.

TABLE IX

Occupational Choices of Girls Compared with Occupations of Employed Mothers

Occupational group	Number girls	Per cent girls	Number mothers	Per cent mothers
Professional and semi-professional	57	29.1	13	16.5
Farmers and farm managers	1	.5	2	2.5
Proprietors, managers, and officials	0	0.0	3	3.8
Clerical, sales etc.	47	24.0	31	39.2
Craftsmen etc.	0	0.0	1	1.3
Operatives	3	1.5	2	2.5
Domestic service	0	0.0	1	1.3
Protective service	0	0.0	0	0.0
Service workers, except domestic	2	1.0	16	20.2
Farm laborers	0	0.0	0	0.0
Laborers, except farm and mine	0	0.0	10	12.7
Housewife	3	1.5	---	---
Totals	113	57.6	79	100.0

Note: Percentages for girls are based on the whole group of 196 girls, 57.6 per cent of whom had a vocational choice. See Table VIII. Percentages for mothers are based on the total number employed; i.e., 79. Mothers of both boys and girls are included in this figure.

TABLE X

Occupational Choices of Girls Compared with 1940 United States Census Employment Figures for Women in Stanislaus County and California

Occupational group	Per cent girls	Per cent Stanislaus County women	Per cent California women
Professional and semi-professional	29.1	18.2	15.5
Farmers and farm managers	.5	4.2	.8
Proprietors, managers, and officials	0.0	6.3	6.9
Clerical, sales etc.	24.0	29.2	34.3
Craftsmen etc.	0.0	.7	.9
Operatives etc.	1.5	7.9	12.0
Domestic service	0.0	13.4	12.4
Protective service	0.0	0.0	.1
Service workers except domestic	1.0	14.8	14.4
Farm laborers	0.0	2.0	1.2
Laborers, except farm and mine	0.0	.9	.5
Housewife	1.5	---	---
Occupation not reported	---	2.4	1.0
Totals	57.6	100.0	100.0

Note: Percentages for girls are based on the whole group of 196 girls, 57.6 per cent of whom had a vocational choice.

The employment figures for California (Table X) show 15.5 per cent of the employed women of the state in professional and semi-professional service, and in Stanislaus County, 18.2 per cent so employed, compared with 29.1 per cent of student choices for these fields. The number of prospective clerical and sales workers among the girls (24.0 per cent) compares favorably with the county figure (29.2 per cent) for women. In the other categories, the number of student choices runs very low compared with the county women so employed. This is particularly true in the operative, domestic service, and service workers groups. Girls as well as boys need more realistic guidance relative to occupational offerings. The local job possibilities in fields other than the professional and clerical should be made known to them.

A check of the specific occupations chosen by the girls (Table XI) shows secretarial work to be the most popular choice. In the past few years there has been a great demand locally for secretaries. During the war a great many secretaries and other clerical workers have been employed in the various offices at Hammond General Hospital located just north of Modesto. However, in addition to these "war jobs," an increased demand for office workers has been evident in local industrial and business concerns. Trained secretaries should not have difficulty in finding jobs in Modesto, if the present rate of growth continues.

The great demand for nurses during the war and the creation of the Cadet Nurse Corps have increased the number of girls planning for nursing. Some of these girls will not qualify scholastically or

TABLE XI

Occupational Choices of Girls
Distributed According to Frequency

Occupational choice	Number	Per cent
Secretary	20	17.6
Nurse	16	14.1
Clerical worker	12	10.6
Saleswoman	11	9.7
School teacher	10	8.8
Artist	7	6.1
Journalist	4	3.5
Physician	3	(2.7 %)
Musician	3	
Social service worker	3	
Dressmaker	3	16.2
Housewife	3	
Telephone operator	3	
Church worker	2	(1.77%)
Occupational therapist	2	5.3
Beauty operator	2	
Actress	1	(0.9 %)
Girl Scout executive	1	
Laboratory technician	1	
Model	1	
Radio announcer	1	8.1
Recreational director	1	
Scientist	1	
Farmer	1	
Bookkeeper	1	
Totals	113	100.0

Note: Percentages are based on those who gave an occupational choice, not the entire group.

physically for nurses' training, but the number who will be able to carry through will make their contribution.

Ten girls have chosen to become public school teachers, some in the elementary, and some in the secondary field. With the present teacher shortage, particularly in the elementary schools, more of the capable students should be encouraged to enter teaching.

The seven artists listed have chosen a variety of art interests ranging from landscape design to interior decoration. The help and encouragement received from the art instructors at the high school, have, no doubt, been largely responsible for this rather large and varied group of future artists.

The new occupations coming to the fore as a result of the war are represented by the two occupational therapists. Other choices influenced by the war are those of the two sisters who have chosen social service because they wish to have part in the rehabilitation of the impoverished peoples of Europe.

3. When Occupational Choices were made

In reply to the question as to the approximate time of making their occupational choices, students gave a variety of answers covering a wide range of time.

Their recollection as to the time of their decisions is, of course, subject to error, but in order to help them place the time as accurately as possible they were asked to give the year in school rather than age since it was felt that their recall of experiences associated with the school would, perhaps, be more accurate. The occupational choice referred to in this question was the one which

they now hold.

TABLE XII

Time of Occupational Choices

Year in school	Number	Per cent
12	36	19.1
11	35	18.5
10	38	20.1
9	37	19.6
7-8	24	12.7
4-6	11	5.8
1-3	8	4.2
Totals	189	100.0

It will be noted, according to Table XII, that it was during the high school period that most of the decisions were made, and that the number of decisions made during each of the four high school years was approximately the same. The elementary years, though not producing so many decisions, should not be overlooked. During the seventh and eighth grade 12.7 per cent of the students made choices, and even down in the primary grades there were eight decisions. On the strength of these figures, it would appear unwise to postpone the giving of occupational information until students reach high school. Although most elementary students are not ready to make a decision, it would seem good practice to furnish them with a variety of interesting materials on occupations, particularly in the seventh and eighth grades, so that they will get a broad outlook of job possibilities. Then, later, when they are ready to decide, they will be able to make

more intelligent choices. Every student is entitled to at least a general survey of the occupational fields before making his decision.

4. Extent of Vocational Planning

One of the purposes of this study was to determine the extent to which high school students plan seriously towards their vocational goals. If they have done some sound thinking along this line they will know the training requirements for their chosen occupation, have made plans to secure that training, have some idea of when and where they will work, and perhaps have one or more alternative vocational choices in mind in case they cannot qualify for their first choice.

Out of 189 students having a choice, 156, or 82.5 per cent, said they were familiar with the training requirements of the occupation chosen. It is difficult to determine the accuracy of their answers. Although 82.5 per cent may have some knowledge about training requirements, such information is probably incomplete or inaccurate in a good many instances. The remaining 17.5 per cent who have made a choice without the necessary information as to how to prepare themselves for their calling present another problem. Is their lack of information due to neglect on the part of the school, or their own failure to absorb and use the information when given?

One evidence of planning is the extent to which students have chosen their high school course in line with their vocational choice. Replies from 139 (73.5 per cent) of the 189 students to the question: "Have you planned your high school work in line with the requirements for your chosen occupation?" were in the affirmative. These students felt they had chosen a course of study in high school which was pre-

paring them for their vocation. As a means of checking on the accuracy of their replies, Table XIII was prepared. Students were grouped according to the course followed in high school with their occupational choices recorded under each course.

Most of the boys taking the agriculture course plan to become farmers, but one agricultural major has selected law, and that choice was made in the eighth grade. The university preparatory course would probably have been a wiser choice for him. There is, of course, the possibility that he plans to apply his legal knowledge in connection with problems of agriculture. The one girl taking the agriculture course is married and plans to be a homemaker. Another girl, planning for farming, is taking the university preparatory course.

Business training is valuable in any vocation, and as shown in Table XIII, students with a variety of vocational choices have followed the commercial course for their preparatory training. Possibly the future dressmaker, nurse, and artist might have chosen courses more closely allied to their interests.

The shortcomings of the general academic course have been pointed out earlier in this study and will not be repeated here. It is not surprising to see that the students in this course represent a wide variety of occupational choices. Some of these students would be better prepared for their vocation if they had chosen a vocational-training type course; this would seem to be particularly true for such vocations as mechanic, machinist, electrician, salesman, and clerical work.

Among the home economics girls there are several instances where

TABLE XIII

Course in High School and Occupation Chosen
Distributed According to Course

Occupation	Boys	Girls
Agriculture Course		
Farmer	7	
Housewife		1
Lawyer	1	
Art Course		
Commercial artist	1	
Artist		1
Commercial Course		
Salesman, saleswoman	1	10
Nurse		1
Beauty operator		1
Clerical worker		10
Secretary (stenographer)	1	20
Bookkeeper		1
Telephone operator		3
Dressmaker		1
Actress		1
Artist	1	
Radio announcer	1	
Proprietor, grocery store	1	
General Academic Course		
Clerical worker	1	1
School teacher	1	3
Model		1
Pilot	2	
Nurse		5
Mechanic	1	
Forest ranger	1	
Radio announcer	2	1
Occupational therapist		1
Publicity manager	1	
Proprietor, wholesale	1	
Designer		1
Machinist	1	
Interior decorator		1
Commercial artist		2
Artist	1	
Music critic		1
Professional athlete	1	
Salesman	2	
Girl Scout executive		1
Electrician	1	
Mechanical engineer	1	
Social service worker		1
Home Economics Course		
Physician		1
Saleswoman		1
Nurse		3
Housewife		2
Clerical worker		1
Dressmaker		2
Beauty operator		1
Church worker		1
Music Course		
Nurse		1
Radio announcer	1	
Trades and Industries Course		
Railroad fireman	1	
Photographer	1	
Machinist	2	
Mechanic	6	
Carpenter	1	
Cabinetmaker	1	
Auto. body builder	1	
Electrical engineer	1	
Scavenger	1	
Printer	1	
Salesman	1	
Pilot	1	
Farmer	2	
University Preparatory Course		
Engineer	2	
Mechanical engineer	1	
Electrical engineer	4	
Aeronautical engineer	1	
Music teacher		1
Landscape designer		1
Church worker		1
Musician		1
Photographer	1	
Scientist	2	1
Journalist	1	4
Social service worker		2
School teacher		7
Nurse		6
Physician	1	2
Occupational therapist		1
Artist		1
Farmer	2	1
Officer, Maritime Service	1	
Lawyer	1	
Psychologist	1	
Painter	1	
Proprietor, grocery store	1	
Clerical worker	1	
Pilot	1	
Minister	1	
Laboratory technician		1
Recreational director		1
Writer	1	
Totals	76	113

there appears to be little relationship between the high school course and the occupation chosen. It is true that all girls should have some home economics training, but in the case of the physician and church worker, a university preparatory course would have given them the academic background necessary for these professions. The sales and clerical workers should have availed themselves of the training given in the commercial classes.

Likewise, in the other departments, there are evident cases of poor planning; such as, the nurse with a music major; the painter, clerical worker, and grocery store proprietor following the university preparatory course.

The figures on planning presented in Table XIII approximate fairly well the statements given by students themselves regarding the extent to which they had planned their high school work in preparation for their future occupation. Of the 189 students responding, 139 stated they had planned their high school course in line with their occupational choice; the remaining fifty students answered in the negative. An examination of Table XIII shows that thirty or more students have not selected a course related to their vocational choice, a somewhat more optimistic picture than that given by the students themselves.

Certain allowances should be made relative to the vocational value of any given high school course. In the first place, the value of a course in the life of a student cannot be measured objectively. Although apparently unrelated to his occupational plans, such a course may have caused the student to develop certain skills or attitudes

which will stand him in good stead in the future. Secondly, the student's future, occupationally speaking, is very problematic. He may find the demands of his occupation to be very different from what he expected, or he may find himself in a totally different occupation from what he had planned for because of circumstances beyond his control.

Another point which has a bearing upon this question of the high school course and occupational plans is that the course chosen may limit but does not prevent the student from taking a number of subjects in other fields of interest. For instance, a student planning to become an artist may take the university preparatory course in order to secure the broad cultural background necessary, but he can also choose a number of art courses as electives. Table XIII must, therefore, be interpreted with these facts in mind. Some cases which may appear as poor planning are actually in line with vocational goals.

Responses to the questions regarding vocational plans beyond high school shows that of the 318 seniors, 183 or 57.5 per cent plan to secure further training in colleges, schools of nursing, business colleges, or in trade schools, and that of these 183 students, one hundred plan to work part time to finance further education. Other students plan to secure full-time employment directly after graduation. A total of 106 students said they were expecting to go to work, fifty-eight of them having a definite promise of a job. The above figures show that 289 (90.9 per cent) out of 318 students have made definite vocational plans, either to secure further training or to go to work.

Although it is to be expected that a certain number of these students will not carry out their present vocational plans, their responses show that the majority have at least done some planning along vocational lines.

The problem of uncertainty in vocational planning has been given consideration by a large number of these students. In case their present occupational choice should prove unwise or impracticable, 62.4 per cent have a possible alternate choice in mind. A comparison of the boys and girls on this point shows that 61.0 per cent of the boys and 63.4 per cent of the girls have an alternate choice. It is interesting to observe that the number of girls is slightly higher than the boys, particularly so since most of the girls will, in all probability, become homemakers. Only three girls gave "housewife" as their alternate choice.

Some other interesting observations regarding alternate choices should also be noted. In a few cases boys gave the parent's occupation as the alternate choice. In three cases this was farming; and in two cases, trucking. One boy whose father is a butcher specified this trade as his alternate choice, while another whose father is a veterinarian is considering medicine as a possible profession.

Other students selected as their alternate choice an occupation which was similar to their first choice, or one which demanded somewhat the same qualifications. In the mechanical occupations students who planned to be machinists gave other related trades as their alternate choice, such as mechanic or electrician. Boys looking to one field of engineering were ready to try another field; for instance,

the future mechanical engineer who chose electrical engineering as a possible alternate. Among the artists the situation was similar to that of the engineers, another related area of art being held as an alternate choice. Girls planning for one of the clerical occupations gave another related occupation as their second choice.

In a few cases the alternate choice, though similar to the first occupational choice, was less exacting in its demands. A girl planning to become a physician named nursing as her alternate choice; another gave practical nursing as a substitute for professional nursing. A third student, hoping to be a designer, gave beauty culture as a possible alternate.

Girls, to a greater degree than boys, chose alternate vocations which were similar to their first choice. In three cases out of five, girls chose occupations for their alternate choices which were similar to their first choice; for boys the same ratio obtained, but in favor of unrelated occupations as alternate choices.

A classification of the alternate choices of both boys and girls shows a preponderance of such choices falling in the professional and semi-professional class. In most cases, if the first choice was in the professional group of occupations, the alternate choice was also.

5. Realism in Vocational Planning

According to their own responses, the majority of students in this study felt they were acquainted with the training requirements of their chosen occupation. In addition to knowing occupational requirements, students need to know how well they can measure up to these requirements. Realism is needed in this self-appraisal.

In an endeavor to determine whether students showed a realistic attitude in their occupational choices, certain checks were made. First, the student's mental ability, as shown by his intelligence quotient on the Otis Self-Administering Test of Mental Ability, Higher Form was checked with his occupational choice; then the relative level of intelligence required for success in this given occupation, according to the opinion of experts, was checked with the student's intelligence quotient. The vocational interest patterns of students as shown by their responses to the Kuder Preference Record were also compared with their expressed vocational choice to see if their interest patterns harmonized with the demands of the vocation. And, finally, as an additional check in determining whether students were using good judgment in vocational planning or indulging in wishful thinking, they were asked to name the occupation they would most like to follow if they had complete freedom of choice.

a. Mental Ability and Occupational Choices

The intelligence quotients for the students included in this study were obtained from office records. All scores are from the Otis Self-Administering Test of Mental Ability, Higher Examination. The distribution of intelligence quotients for the group is given in Table II. The limitations of such scores for purposes of analysis must be taken into consideration. In individual cases, the intelligence quotient may not give a true picture of the student's mental ability, but for purposes of comparison between groups such scores do provide an objective measure which is of value.

It is evident that all occupations do not make the same demands

on intelligence. Students recognize this fact when they make such comments as, "I'm not smart enough to be a doctor," or "I don't have enough brains to be a teacher." But to say just how much "brains" one does need for success in any given occupation is a difficult matter. Considerable study and research have gone into this problem. Interest in the relationship of intelligence to occupations was aroused by the testing program of the Army in World War I. The Army Mental Tests were given to determine general ability or general intelligence. Two varieties of group examinations were used, the Alpha for literates and the Beta for illiterates. A definite relationship was found between the test scores and occupations. The higher the socio-economic status of a man's occupation, the higher his test score. Bradley in his study of the Correlates of Vocational Preferences finds this relationship between the Army Test scores and occupations significant:

> If the occupations included here were arranged according to socio-economic status one would find almost perfect correlation between such an arrangement and the arrangement from high to low. One cannot help but conclude that a definite relationship exists between an individual's intelligence and his occupation, and that, in all probability, this relationship comes into being through the qualifications set up by the occupation, the weeding out process that occurs after occupational status has been established, and the individual's own recognition of his capacity and ability to survive in a given occupation.[1]

Another important contribution to the study of intelligence and occupations was made by F. E. Barr.[2] He drew up a list of one-hundred

[1] A. B. Bradley, Jr., "Correlates of Vocational Preferences," Genetic Psychology Monographs, XXVIII, p. 108 (Nov. 1943).
[2] Louis Terman et al, Genetic Studies of Genius, I, pp. 66-69.

representative occupations each definitely and concretely described. Then, in order to reduce personal opinion to the minimum, secured thirty judges to rate these occupations on a scale of 0 to 100 according to the grade of intelligence which each was believed to demand. The ratings were then distributed according to the composite opinion of these thirty judges. The lowest rating was given to the hobo, and the highest to the inventive genius of the Edison type. Terman in his Genetic Studies of Genius, Volume I, Chapter IV used the Barr Scale Ratings of Occupational Status in his study of the occupations engaged in by the fathers of the gifted children selected. He found more parents of this gifted group in the higher socio-economic groups than would normally be the case in a group of parents of like number taken from the general population.

As an aid to vocational counselors The Minnesota Occupational Rating Scales have recently been prepared by Donald G. Paterson and Milton E. Hahn of the University of Minnesota and Clayton d'A. Gerken of Rochester Junior College, Minnesota. These Scales contain a list of 430 occupations each classified according to minimum requirements with regard to six human abilities; i.e., academic ability, mechanical ability, social intelligence, clerical ability, musical talent, and artistic ability.

Like the Barr Scale, The Minnesota Occupational Rating Scales are the result of the combined judgment of experts:

> No claim is made that the ratings are anything more than the "pooled judgments of vocational psychologists".... Although our ratings are based upon the combined ratings of competent judges and not upon the basis of objective test scores of successful workers, one should keep in mind that

these judgments have been guided by extensive knowledge of available objective evidence.[1]

Since the only objective measure of ability available relative to the students in this study was that of intelligence or mental ability, the use of The Minnesota Occupational Rating Scales for purposes of comparison will, of necessity, be confined to this area. Academic ability is the first of the six abilities to be treated in the Scales. According to the definition given by the authors, academic ability is "the ability to understand and manage ideas and symbols."[2] This definition so closely approximates the usual concept of abstract intelligence that probably no serious injustice will result from using the academic ability scale as a means of determing whether students have made wise vocational choices, as far as mental ability is concerned.

In the Scales four levels of academic ability are listed and described:

Level A. (Professional, Semi-professional, and Executive Occupations)

> Requires superior abstract intelligence with training equivalent to college graduation from a first-class institution or two or three years of college, or to that of executive of a moderately large business. Ability for creative and directive work is implied. Includes top decile in general population.

Level B. (Technical, Clerical, Supervisory Occupations)

> Requires high average abstract intelligence with training equivalent to high school graduation and/or technical school or junior college. Includes 76 to 90 percentile.

[1] Donald G. Paterson, Clayton d'A. Gerken, and Milton E. Hahn, Minnesota Occupational Rating Scales, Preface.
[2] Ibid., p. 21.

Level C. (Skilled Tradesmen and Low Grade Clerical Workers)

> Requires average abstract intelligence with training equivalent to vocational high school. Work demanding specialized skill and knowledge; tasks mostly of a complicated but concrete nature requiring specialized training. Includes 26 to 75 percentile.

Level D. (Semi-skilled and Unskilled Occupations)

> Requires low average or slightly below average abstract intelligence with training equivalent to eighth grade or less. Work demanding a minimum of technical knowledge or skill but may involve special abilities, such as dexterity in the performance of repetitive and routine work. Includes 1 to 25 percentile.[1]

In Table XIV the occupational choices of boys are given in the order of frequency. The range of I. Q. and median I. Q. is given for each occupation, if there were several student choices recorded for it. In cases where the choice represents only one or two students, the I. Q. only is recorded. The level of academic ability necessary for success in each occupation, according to The Minnesota Occupational Rating Scales, is also given for purposes of comparison. In some instances the occupational title includes a number of vocational sub-groups, and in these cases the range of academic ability has been given so as to include all gradations within the occupational grouping. This is true, for instance, of the farmer group which ranges from the large land owners requiring A academic ability to the farm tenant requiring only D academic ability. Since students did not specify the type or scale of farming they planned to carry on, it was impossible to treat each case separately. A similar situation was found in dealing with the engineers, mechanics, machinists, and

[1] Ibid., pp. 21-22.

TABLE XIV

Mental Ability of Boys and Intellectual Requirements of Occupations Chosen

Occupations (In order of frequency of choice)	N	Range of I.Q.	Median I.Q.	Level of academic ability required (Minnesota Occupational Rating Scales)
Farmer	11	83-116	102.6	A - D*
Engineer	10	90-116	110.5	A - B*
Mechanic	7	85-109	99	B - C
Radio announcer	4	93-115	108.5	B
Salesman	4	99-106	103.5	B - C*
Airplane pilot	4	90-110	98	B
Artist	3	90-107	98	B
Machinist	3	89-102	100	B - C*
Lawyer	2	102-136		A
Photographer	2	98-123		B
Scientist	2	111-134		A
Proprietor, retail store	2	99-100		B - C*
Clerical worker	2	97-102		B - C*
Carpenter	2	85-113		C
Professional athlete	1	99		C
Writer	1	104		A
Physician	1	98		A
Forest ranger	1	108		B
Journalist	1	125		A
Minister	1	129		A
Psychologist	1	108		A
School teacher	1	98		A - B*
Proprietor, wholesale concern	1	106		B
Publicity manager	1	104		A
Secretary (stenographer)	1	110		B
Auto. body builder	1	96		C
Electrician	1	72		C
Painter	1	109		C
Printer	1	100		B
Railroad fireman	1	97		D
Officer, Maritime Service	1	109		A
Scavenger	1	84		D

*When an occupational title includes a variety of jobs, or occupational subgroups, the range of academic ability required is given (Minnesota Occupational Rating Scales).

Note: Each of the four levels of academic ability include the following approximate range of I.Q.: Level A 120 and above; Level B 110-119; Level C 90-109; Level D 70-89.

school teachers, although the range in ability required for these occupations is not so wide as is that for farmers.

Practically all of the occupational choices of the students were found among the 430 occupations listed in the Scales. In a few cases where the specific occupation was not listed, a careful check was made of occupations closely related to the student's choice in order to determine the approximate level of academic ability required. For two of the vocational choices of girls, housewife and model, no approximate ability level could be determined. A question mark is indicated opposite these vocations in Table XV.

Before drawing conclusions from the data presented in Tables XIV and XV, the limitations of the data from which these tables were drawn should be taken into consideration. The intelligence quotients recorded are from one test only, while the grades of academic ability required for success in the vocations listed are derived from the pooled judgments of experts and not from test scores. In order to make comparisons between the intelligence quotients of the students and the levels of academic ability designated as A, B, C, and D in the Scales, it becomes necessary to determine the approximate range of mental ability covered by each of the four levels. By using the percentile limits (of the general population) set down by the authors of the Scales in their definition for each level and checking these limits with the distribution of intelligence in the general population,[1]

[1] H. A. Greene, E. B. Jorgensen, and J. R. Gerberich, Measurement and Evaluation in the Secondary School, p. 233. Adapted from Lewis M. Terman and Maud A. Merrill, Measuring Intelligence, pp. 38-41.

TABLE XV

Mental Ability of Girls and Intellectual Requirements of Occupations Chosen

Occupations (In order of frequency of choice)	N	Range of I.Q.	Median I.Q.	Level of academic ability required (Minnesota Occupational Rating Scales)
Secretary (and stenographer)	20	89-124	103.5	A - B*
Nurse	16	76-123	102.5	A
Clerical worker	12	71-119	98.5	B - C*
Saleswoman	11	83-106	96	B - C*
School teacher	10	93-119	103.5	A - B*
Artist	7	90-111	105	B
Journalist	4	107-119	117.5	A
Physician	3	98-116	100	A
Musician	3	103-110	108	A - B*
Social service worker	3	100-113	105	A
Dressmaker	3	82-108	94	C
Housewife	3	86-104	100	?
Telephone operator	3	98-102	99	C
Church worker	2	94-122		A - C*
Occupational therapist	2	90-106		A
Beauty operator	2	87-114		D
Actress	1	85		B
Girl Scout Executive	1	100		B
Laboratory technician	1	109		B
Model	1	92		?
Radio announcer	1	112		B
Recreational director	1	96		A
Scientist	1	109		A
Farmer	1	114		A - D
Bookkeeper	1	111		B

* When an occupational title includes a variety of jobs, or occupational sub-groups, the range of academic ability required is given (Minnesota Occupational Rating Scales).

Note: Each of the four levels of academic ability include the following approximate range of I.Q.: Level A, 120 and above; Level B, 110-119; Level C, 90-109; Level D, 70-89.

the following approximate range of intelligence quotients would be included in each of the four levels:

Level A: 120 and above

Level B: 110-119

Level C: 90-109

Level D: 70-89

An examination of the choices of boys in relation to their intelligence quotients (Table XIV) shows a tendency of students to aim above their ability. For vocations having only one student choice this tendency can be seen more readily than for the occupations with a number of choices. Boys who obviously fell short of the mental requirements for the occupation they chose were the writer (first class), physician, psychologist, school teacher, publicity manager, and officer in the Maritime Service. Although the occupation chosen by these six boys demand level A academic ability (in most cases), none of them, according to their intelligence quotients, possessed higher than C ability. Others who were also below requirements, but not to quite such an extent as the above group, were the forest ranger, proprietor of wholesale concern, and printer. For the vocations having two or more choices there were also cases of over-estimation. Students with intelligence quotients at the lower limits of the range would have difficulty in meeting the requirements for the vocations chosen; viz., engineering, radio broadcasting, aviation, art and law. The engineering groups, as a whole, did not reach the high intellectual level required for these technical fields. Although the median I.Q. of this group was higher than that for any other it

was not up to the A level of mental ability required for practically all fields of engineering.

A number of students selected vocations which were in line with their mental ability, such as: journalist, minister, secretary (stenographer), carpenter, painter, professional athlete, and scavenger. The farmer group showed a wide range of mental ability comparable to the various intellectual requirements within this broad occupational field.

In a few cases students chose occupations below their level on the academic scale. The photographer with the 123 I.Q. is an example. It must be kept in mind, of course, that there are managerial jobs at the top of these occupations, and in such cases superior mental ability would be required.

The girls (Table XV) presented a picture similar to that of the boys. There were a number of cases of overestimated ability among the secretarial workers, nurses, clerical workers, salesworkers, school teachers, artists, journalists, physicians, musicians, social service workers, and occupational therapists. Other cases which showed choices to be above ability were the actress, Girl Scout Executive, recreational director, and scientist.

A goodly number of the girls chose vocations with requirements approximating their mental ability. This was true at all of the four ability levels. Girls with superior intelligence chose vocations such as: secretary (private), nurse, and church (trained missionary). Girls above average intelligence chose to be artists, secretaries (stenographers), and school teachers (elementary). Others with

average ability or below chose vocations which were less exacting such as: telephone operator, saleswork (routine), dressmaker, church worker (untrained), and beauty operator.

Like the boys, only a few girls aimed too low. The girl with the 114 I.Q. planning to become a beauty operator would probably have been wiser to have chosen an occupation offering more mental stimulation. Her plans may, of course, include owning and managing a shop of her own.

The median I.Q.'s for each of the occupational groups drawing several choices do not vary greatly; most of them are within the B or C level of ability. The group coming closest to meeting the high intellectual requirements of the occupation is that of the journalists (girls) with a median I.Q. of 117.5.

Tables XVI and XVII give additional data regarding the distribution of intelligence within the various occupational choice groups. Student choices have been grouped according to the 1940 census classifications. The professional and semi-professional group among the boys showed a range in ability from low normal to very superior intelligence with a median I.Q. of 103. Students possessing only average ability will undoubtedly experience difficulty in their preparatory training for most of the occupations within this group. As previously mentioned, the farm group showed a range of ability comparable to the varying intellectual demands in the agricultural world. The proprietors and clerical-salesworkers groups were somewhat below requirements, especially for the managerial types of jobs. A wide range of ability was found in the craftsmen group, ranging from dull or borderline to

TABLE XVI

Mental Ability and Occupational Choice (Boys)

Occupational Choice	Number	Range of I.Q.	Median I.Q.
Professional and semi-professional	31	90-136	108
Farmers	11	83-116	102.6
Proprietors	4	99-106	102
Clerical and salesworkers	7	97-110	103
Craftsmen	21	72-113	98.7
Operatives	1	109	109
Service workers, exc. domestic	1	84	84

Note: Only one student choice is found in the "operatives" and "service workers" groups. Range of I.Q.'s are inclusive of lowest and highest scores.

TABLE XVII

Mental Ability and Occupational Choice (Girls)

Occupational Choice	Number	Range of I.Q.	Median I.Q.
Professional and semi-professional	57	76-123	104.3
Farmers	1	114	114
Clerical and salesworkers	47	71-124	98.1
Operatives	3	82-108	95
Service workers, exc. domestic	2	87-114	100.5
Housewife	3	86-104	95

Note: Only one girl chose farming as her vocation. Range of I.Q.'s are inclusive of lowest and highest scores.

above average intelligence, suggesting a probably range in future jobs from the unskilled to highly skilled.

The professional and semi-professional group among the girls (Table XVII) showed less promise than that of the boys. Out of the fifty-seven girls selecting occupations in this category, only two had I.Q.'s above 120; fourteen, between 110 to 119; the remaining forty-one students showing average or below average mental ability. A goodly number of these girls will probably not carry out their vocational plans because of marriage, but those with only average mental endowment seeking a professional career are almost certain to meet with

disappointments. The other occupational groups among the girls did not show quite such a discrepancy between mental ability and the intellectual requirements for the occupations chosen as did the professional group. For the clerical-salesworkers, operatives, and service workers groups there was quite a range in ability, but since there also are jobs in these fields ranging from simple routine tasks to highly skilled and supervisory jobs, the students in these groups will probably not experience a great deal of difficulty finding jobs commensurate with their abilities. No data are available on the amount of intelligence a housewife should possess to manage a home successfully, but it would seem that she should have at least average mental ability.

b. Interest and Occupational Choices

Interest in a given occupation does not guarantee that a person possesses the qualifications necessary for success in that field. For instance, a person who does not possess superior intelligence and manual dexterity will not make a successful surgeon, however much he may desire to be one. On the other hand, unless there is real interest present, the job will soon become dull and monotonous. Ordinarily, however, interest and ability tend to go together; people are happy at jobs they can do well, other things being equal.

Because of the importance of interest in the selection of a vocation, G. F. Kuder developed the Kuder Preference Record as an instrument for helping young people and adults discover their own interests. By responding to a large number of choices having vocational significance, a person obtains a picture of his own pattern of interests.

Scores are obtained in nine general areas: mechanical, computational, scientific, persuasive, artistic, literary, musical, social service, and clerical. These scores are not measures of ability, but indicate what things a person enjoys doing.

All of the students in this senior class completed Form BB of the Kuder Preference Record and constructed their interest profiles from their raw scores obtained on the test. Students were then grouped by vocational choice under each of the nine interest areas. This grouping was determined by means of the Table for Use in Interpreting Preference Record Profiles which gives an extensive list of occupations under each of the nine interest areas, or combinations of two areas. Practically all of the occupations chosen by the students were found in the Kuder Table. In case a student's choice was not listed, his scores were not used in this study.

The raw scores for the students in each interest area were then converted into percentile equivalents and median percentile scores obtained. Tables XVIII and XIX give the median percentile scores for student interest groups in each of the nine areas. The specific occupations chosen by the students are grouped at the bottom of the tables under their respective interest group designated as the "expressed area of choice." Because the raw scores for boys and girls are treated separately by the author of the test and ranked differently on the percentile scales, it was necessary to handle the two groups separately here as well.

Scores above the 75th percentile are to be considered as "high scores" or scores showing significant interest in an area, while

TABLE XVIII

Occupational Choices of Boys and Median Percentile Scores on the Kuder Preference Record

Expressed area of choice	N	Mechanical	Computational	Scientific	Persuasive	Artistic	Literary	Musical	Social Service	Clerical
Mechanical	21	75	49	49	27	49	30	55	42	45
Scientific	15	62	64	72	41	67	36	50	33	25
Persuasive	14	26	40	11	87	46	83	56	40	58
Artistic	5	81	18	16	72	93	57	42	27	20
Literary	2	4	28	17	82	68	98	48	39	40
Social Service	2	43	30	35	67	65	68	26	59	23
Clerical	3	48	50	26	50	49	83	55	48	71
Mechanical-scientific	11	53	25	18	50	48	30	42	52	46
Total	73									

Note: The classification of student choices under each "expressed area of choice" was determined by the Kuder Table for Use in Interpreting Preference Profiles as follows:

Mechanical: craftsmen of all kinds--mechanic, machinist, printer etc.
Scientific: physician, scientist, engineer, forest ranger, psychologist
Persuasive: lawyer, radio announcer, salesman, publicity agent, proprietor
Artistic: commercial artist, photographer
Literary: writer, journalist
Social service: minister, teacher (athletic coach)
Clerical: stenographer, general clerical worker
Mechanical-scientific: farmers
Areas for which there were no expressed student choices: computational and musical
Occupations not included in Kuder Table: professional athlete, scavenger, officer in Maritime Service
Scores above the 75th percentile are evidence of significant interest in an area.

TABLE XIX

Occupational Choices of Girls and Median Percentile Scores on the Kuder Preference Record

Expressed area of choice	N	Mechanical	Computational	Scientific	Persuasive	Artistic	Literary	Musical	Social Service	Clerical
Computational	1*	94	95	85	3	90	2	15	5	94
Scientific	5	39	36	94	32	29	43	30	80	42
Persuasive	12	59	58	39	61	56	43	32	31	59
Artistic	13	77	12	42	43	86	50	60	55	18
Literary	5	27	33	39	77	44	98	40	62	64
Musical	3	45	5	18	52	77	52	95	44	25
Social Service	35	55	40	55	30	55	50	57	85	14
Clerical	35	43	43	38	55	64	49	45	32	80
Mechanical-scientific	1*	12	16	82	59	79	29	26	67	4
Total	110									

Note: The classification of student choices under each "expressed area of choice" was determined by the Kuder Table for Use in Interpreting Preference Profiles as follows:

Computational: bookkeeper
Scientific: physician, laboratory technician, scientist
Persuasive: saleswoman, radio announcer
Artistic: commercial artist, dressmaker, model, beauty operator
Literary: journalist, actress
Musical: musician
Social Service: nurse, teacher, social service worker, church worker, recreational director, occupational therapist, Girl Scout executive
Clerical: secretary and stenographer, general clerical worker, telephone operator
Mechanical-scientific: farmer
Area for which there was no expressed student choice: mechanical
Occupations not included in Kuder Table: housewife

*When only one student is represented, her percentile scores are given.
Scores above the 75th percentile are evidence of significant interest in an area.

scores above the 65th percentile "probably have some significance but cannot be regarded with as much confidence as higher scores."[1]

The Kuder Preference Record was designed for the dual purpose of:

1. Pointing out vocations with which the student may not be familiar but which involve activities of the type for which he has expressed preference...

2. Checking on whether a person's choice of an occupation is consistent with the type of thing he ordinarily prefers to do.[2]

It is in connection with this second function that the occupational choices of the senior students will be considered at this point. Since most of them had made their choices before completing the test, it is of interest to note whether or not they showed high interest in the area of their choice.

Table XVIII shows that in the craftsmen group the highest interest was in the mechanical field (median percentile score 74) with no significantly high score in any other area. An examination of the scores of individual boys showed ten out of twenty-one with scores above the 75th percentile; the remainder with scores around the 50th percentile, or lower.

The students choosing careers in science represent quite a variety of professions, each demanding its own pattern of interests, no doubt. Their highest score was in the scientific area (median 72) with the artistic running a close second (median 67). Since there were ten engineers in this group, this may account for this rather

[1] G. F. Kuder, Table for Use in Interpreting Preference Record Profiles, p. 1.
[2] G. F. Kuder, Intermediate Manual for the Kuder Preference Record, p. 2.

high interest in art as well as the median percentile scores of 62 and 64 in the mechanical and computational fields, respectively.

An interesting similarity should be observed relative to the persuasive and literary groups. The persuasive group showed their highest interest in that field (median 87) and in literary pursuits (median 83), while the two students in the literary area presented a similar picture with a median percentile score of 98 in literary and 82 in persuasive activities. That high interest in these two areas should exist together is to be expected. Proficiency in expression, whether oral or written, is necessary for success in both of these occupational areas.

A very high interest in art was shown by the group of future artists and photographers (median 93), and also a significantly high interest in mechanical activities (median 81). This would indicate that their interest in art was not of the passive or appreciation type but was definitely active and creative.

The two social service students showed extreme differences in their interest in people. The boy who wishes to be an athletic coach showed very little social interest, whereas the boy planning to enter the ministry showed a very high interest in the welfare of others (percentile score 99). Their rather high interest in the persuasive and literary fields would seem to be in line with their vocational choices, particularly so in the case of the ministry.

Boys planning for clerical occupations showed a higher interest in the literary field (median 83) than in the clerical (median 71). This group also had a considerable number of scores in other interest

areas clustering around the 50th percentile, indicating an interest in a variety of activities.

According to the Kuder Table, farmers are grouped in the combined mechanical-scientific interest category. However, the student farm group did not conform to this pattern. Their interest in things mechanical was not significant (median 53), and in science their interest was very low (median 18). About as much interest was registered for the social service and persuasive activities as for the mechanical. The one girl (Table XIX) who chose farming showed a high scientific interest (percentile score 82) in contrast to the low interest of boys. She also was interested in the artistic and social service activities. Just what type of farming she planned to engage in she did not state in her questionnaire, but the artistic and social service interests suggest a variety of possible activities which might be combined with agricultural pursuits. Perhaps gardening and landscaping might prove interesting to her, or she might engage in rural club activities and serve her community through these channels.

The girl who chose bookkeeping as her occupation presented an interest pattern which conforms to the demands of this vocation. She had very high scores in the computational, clerical, and mechanical fields, and almost as high scores in the scientific and artistic. In contrast, she showed very little interest in the persuasive and social service activities. It would seem, therefore, that the rather secluded but detailed and exacting work of the bookkeeper would be to her liking.

The group of five girls who specified vocations in science

ranked very high in scientific interest (median 94) with social service next (median 80). This high interest in social service is due to the three girls who chose medicine. All three registered a high degree of interest in the welfare of others (social service area).

By comparing the twelve girls (Table XIX) in the area of persuasive activities with the boys in the same field (Table XVIII), it will be noted that the girls showed considerably less interest (median 61) in such activities than the boys (median 87). Since most of the girls in this group were planning for routine saleswork in stores they probably would not need as keen persuasive powers as the boys who chose vocations demanding more ingenuity and independent action. Their literary interests are also much lower than those of the boys.

Like the boys who chose vocations in art, the girls in this group showed high artistic (median 86) and high mechanical interests (median 77). For the dressmaker and the beauty operator, particularly, interest in the mechanics of the vocation would be of great help.

The girls selecting literary pursuits showed exceptionally high interest in this field (median 98) and, similar to the boys, claimed their next highest interest among the persuasive activities (median 77). Since there were four journalists and one actress in this group, it is to be expected that they would enjoy activities calculated to influence others. This group of girls showed a higher persuasive interest (median 77) than the salesgirls group (median 61).

High interest in both music (median 95) and in art (median 77) was shown by the three senior girls planning for careers in music.

This combination of interests should lead to a number of interesting vocational possibilities in the fine arts.

Seven different occupations were represented in the social service group, all with great potentialities for service to others. That most of these thirty-five girls possessed the social interest which would make them happy in such vocations was shown by their high score (median 85).

The clerical workers' highest score was in the clerical field (median 80). No other scores were significantly high.

From the examination of the vocational choices of students and their areas of vocational interest as indicated by their percentile scores on the Kuder Preference Record, it is evident that, on the whole, their vocational preferences are in line with their interests. In most cases high scores were recorded in the interest areas in which their vocational choices were found.

c. Freedom of Choice

Students were asked (question 13) to name the occupation they would most like to follow if they had complete freedom of choice. For the sake of brevity and clarity the occupation given will be designated as the student's "free" choice. The purpose in seeking this information was to ascertain whether student choices were made as the result of sound planning on their part, wishful thinking, parental pressure, or the exigencies of circumstances. Some interesting material was brought to light through their responses. Out of the 318 students responding, 277, or 87.1 per cent, named a free choice; and of these 277 students, 172 were among those who held a vocational

choice, while the remaining 105 had made no choice.

It is significant that 105 out of the 129 students with no vocational choice did name a "free" choice. An examination of their answers on the questionnaire suggests several reasons for the high number of "free" choices among this group of students. Some were evidently hesitant about giving a definite vocational choice because of the uncertainties of the future, but were willing to name a "free" choice because the question was so worded as to imply their control over the vagaries of circumstances. It is probable that, in most cases, the "free" choice mentioned was the tentative occupational choice of the student. Many of the occupations mentioned as "free" choices were not "glamour jobs," but of the type well within the possibility of attainment, such as: beauty operator, salesworkers, clerical worker, stenographer, telephone operator, laboratory technician, mechanic, farmer, and carpenter.

The influence of the school on the planning of students was evident in the "free" choice of six girls in the Home Economics Department for the nursing profession. Considerable pre-nursing information and training is given in this department, and although these girls had developed an interest in nursing they evidently realized they did not meet the physical or intellectual requirements of the profession. A check of their scholastic record and intelligence quotients showed that most of these girls would be unable to meet the academic requirements for nursing.

The school curriculum may also hamper a student in his vocational planning. Since all students are required to take a minimum number of

classes in their chosen course, they are necessarily limited in the number of electives they may choose. Some students in this group of seniors felt they must continue in their major course in order to meet graduation requirements even though their vocational interests had changed since entering high school. Provision is made in the counseling program for students to change their course if they are not adapted to it or are unhappy, but evidently some of these students were unaware of this provision. For instance, a girl of high intelligence who was a secretarial major showed a low interest in the clerical field on the Kuder Preference Record, while her social service score was high. When questioned about this apparent discrepancy between her high school course and her interests, she replied that for quite a period of time she had wanted to become a physical education teacher, but since she had started in the commercial department she had felt impelled to complete her major. She was unhappy and dissatisfied with her high school course. Two other girls were following the university preparatory program, but gave secretarial work as their "free" choice. One of these girls had started her high school work in a strictly academic school, and when transferring to Modesto continued her academic course even though her interests were in the clerical field.

In order to be an efficient stenographer, a girl should possess average intelligence or above (Table XV). A number of girls who could not meet the standards in typing and stenography set up by the commercial department of the high school were advised by their teachers to consider either a home economics course or a store service commercial course. These six girls showed a range in intelligence quotients

from 70 to 106, three of them being decidedly below average. Although they had followed the counsel of their teachers by transferring to either a store service or home economics course, they still retained their original hope of becoming stenographers--all six girls gave secretarial work as their "free" choice.

Fourteen students gave a musical or art profession as their "free" choice. These students showed talent in these fields while in high school and had availed themselves of the training offered in the music and art courses. Realizing that they must possess ability of rather a high caliber in the arts if they hoped to earn their livelihood thereby, these students probably felt hesitant about making a definite statement as to vocational choice but still were hoping to qualify in the arts.

Other vocations requiring special abilities were also named by a number of students, such as: journalism, radio broadcasting, mechanics, and mechanical engineering.

Only one girl named homemaking as her "free" choice, although most of the girls undoubtedly hoped to become homemakers.

The responses of students having a definite vocational choice were also interesting. Of the 189 students in this group, 115 (60.8 per cent) named the same occupation for their "free" choice as they had previously given as their occupational choice, indicating that they had been allowed freedom in making their choices. An additional fourteen students named an occupation for their "free" choice which, though not identical with their occupational choice, was related to it or called for similar capabilities. For instance,

one student giving designing as her occupational choice, named artist as her "free" choice. A number of students gave one commercial occupation as their occupational choice and another similar to it as their "free" choice. In some cases the choices were so much alike that no real distinction could be detected between the occupational choice and the "free" choice; for example, one girl gave clerical work as her occupational choice and typing as her "free" choice.

Eighteen students gave as their free choice occupations which were totally different from their expressed occupational choice. Three girls who named clerical work as their occupational choice had hopes of becoming airplane pilots. One boy gave acting as his "free" choice in contrast to his occupational choice of secretarial work. Two girls in the clerical-salesworkers group gave nursing as their "free" choice.

In fifteen cases students chose occupations for their "free" choice which were either more spectacular or called for more intellectual ability; such as the school teacher who gave opera singer as her free choice; or the clerical worker who hoped to get into radio broadcasting; or the beauty operator who looked to the field of dietetics for the fulfillment of her vocational ambitions.

But, on the whole, the "free" choices given did not show a great deal of wishful thinking on the part of these boys and girls. The majority of students holding a vocational choice named the same occupation, or a similar one, as their "free" choice. Most of the students who had no vocational choice gave a "free" choice, these choices ranging all the way from routine jobs to those requiring superior

mental, artistic, mechanical, or musical ability. From an examination of their answers on the questionnaire, it was evident that for many of the students who gave no occupational choice their "free" choice was the vocation they ultimately hoped to follow.

6. Changes in Occupational Choices

In order to avoid having students list the transitory occupational decisions they might have made during their childhood years, they were asked to name only those choices held since entering high school. There is no way of telling how accurately they recalled their previous choices, but it is likely that they listed only those to which they had given serious thought. All students were asked to name their previous choices whether or not they had a choice at the time of completing the questionnaire.

A check of their answers showed the following distribution: forty-four (13.8 per cent) had no occupational choice and named no previous choices; 109 (34.3 per cent) listed no previous choices, but had a definite occupational choice; 85 (26.7 per cent) had no occupational choice, but had held one or more previous choices; 80 (25.2 per cent) had a choice and had also held one or more previous choices. Out of 318 students, therefore, 165, or 51.9 per cent, had made previous choices, while 153, or 48.1 per cent, had not. A comparison of the responses of boys and girls revealed that a larger proportion of the girls (61.2 per cent) had held previous choices than had the boys (36.9 per cent).

Table XX shows the number of previous occupational choices held by the 165 senior students, both boys and girls. It will be noted

TABLE XX

Number of Previous Occupational Choices Held by Senior Students during the High School Period

Number of previous choices	Number boys	Per cent boys	Number girls	Per cent girls	Total boys and girls	Per cent boys and girls
One	30	18.2	60	36.3	90	54.5
Two	7	4.3	35	21.2	42	25.5
Three	3	1.8	25	15.2	28	17.0
Four	5	3.0	0	0.0	5	3.0
Totals	45	27.3	120	72.7	165	100.0

Note: All percentages are based on the total number who have had previous choices, 165 cases.

that over half of the students (54.5 per cent) fall in the group having held only one previous occupational choice, and that as the number of previous occupational choices increases, the number of students decreases. Only five students named as many as four previous choices.

It is significant that over one-third (34.4 per cent) of this senior class have held only one occupational choice during the high school period, and that an additional ninety students (28.3 per cent of the total number) have held only one previous choice. Almost two-thirds of the group have shown a high degree of stability in their choices.

A study of the previous occupational choices of these senior students did not show any definite trends. Some students had held several choices and then came back to their original choice, some had been interested in a variety of occupations, others, in only one or two related occupations.

It is of interest to the counselor not only to ascertain the frequency with which students make changes in their occupational plans, but also to gain some insight as to why students make such changes. Students had only a hazy idea as to why they changed their plans, while others were able to give definite reasons for such changes. To help students identify those individuals, circumstances, or influences playing a part in the changes of occupational choice, a list of nineteen reasons was given for them to check, with an opportunity to add any other reasons not included in the check list. Students were not limited in the number of reasons they might check since it

was felt that in some instances a variety of reasons might have effected the changes in occupational plans. A tabulation of their responses is given in Table XXI.

Among the individuals whose counsel had influenced students to make changes in their occupational plans, mother ranked highest with classroom teacher and father following closely in second and third place. Compared with the classroom teacher, the advisory or home-room teacher had apparently been relatively ineffective. This may not be a true picture as the advisory teacher also functions as a class-room teacher, and students may not have made this distinction in check-ing. Since students have four or five classroom teachers daily, in addition to their advisory teacher, there are more opportunities for contacts and counsel in the regular classrooms, particularly in the laboratory or informal-type classes. It must, of course, be kept in mind that these student responses were made relative to changes in occupational choice, and not to vocational guidance in general.

Further observations should be made concerning the information presented in Table XXI. The one reason for changing which received by far the highest number of responses (43.0 per cent) was: "Feel present choice is more in line with my abilities and interests." The second most frequent reason for changing was: "Found I am not suited for it (former choice)."

Students gave various reasons why they had come to feel they were not suited for the occupation, or occupations, previously con-sidered. Six girls who had planned to become stenographers had found in their commercial classes that they were not adapted to clerical

TABLE XXI

Reasons Why Changed Occupational Choice while in High School

Reason	Number of responses	Per Cent
Advised to change plans by:		
Mother	23	13.9
Father	19	11.5
Relatives	8	4.8
Advisory teacher	7	4.2
Classroom teacher	20	12.1
Office counselors	5	3.0
Adult friend	11	6.6
Influenced by pal to change plans	16	9.7
Found preparation in high school too difficult	13	7.9
Found it required too long period of training	22	13.3
Requires too much money to prepare for it	10	6.1
Not enough money in it	15	9.1
Offers little chance for advancement	17	10.3
Found I am not suited for it (former choice)	38	23.0
Lost interest in it (former choice)	27	16.4
Too many people in this vocation already	18	10.9
Few positions available in this field	7	4.2
Want to try one of newer occupations	19	11.5
Feel present choice more in line with my abilities and interests	71	43.0
Other reasons	26	15.7
Total number of responses	392	

Note: Since students were free to check more than one reason, percentages will total more than 100 per cent. From the 165 students who had made changes in their occupational choices there were 392 separate responses, an average of more than two responses per person.

work and so had altered their vocational plans. One girl had changed from teaching to clerical work because she had found she lacked patience when dealing with children; another girl, because she "was not smart enough" to be a teacher. A commercial student selected bookkeeping instead of saleswork because she "did not like a lot of people around."

Physical limitations also caused students to change from one occupation to another. Such was the case of the senior girl who, because of a back injury, changed from nursing to occupational therapy. Poor eyesight, hayfever, lack of vitality were also given as reasons for changing plans.

Lack of the necessary artistic talent was mentioned by three students as the reason why they had given up hope of a career in art as designer, architect, or interior decorator.

The third most common reason given by students for changing occupational plans was that they had lost interest in their previous choices. A number of different reasons were given for this loss of interest. In a few cases students admitted that they found the preparatory work in high school too difficult, or that they could not meet the qualifications for the profession chosen. One student said he lost interest in salesmanship because there was too much repetition of subject matter in his commercial courses. Another boy changed his mind about becoming a dairyman because he found it "too confining." Two students who had transferred from other schools felt that these breaks in their high school course had caused them to lose interest in their original plans for a vocation. Their answers indicated that

they had become bewildered and frustrated because of these changes.

However, the most frequent reason given for loss of interest in previous occupational choices was that they had found other occupations which were more to their liking. This is really the same reason as that checked by almost half of the 165 students: "Feel present choice is more in line with my abilities and interest." If these responses are an accurate check of student thinking and planning in regard to vocations, they show that approximately 50 per cent of the students made their choices on the basis of self-analysis.

Most of the twenty-six students who chose to write in "other reasons" for making changes in their occupational choices gave reasons which had already been covered in their previous responses. Considerable repetition was found in student answers.

A few indicated "other reasons" which showed the influence of the school and home, directly or indirectly. One girl who had planned to become a bookkeeper decided, after taking biology, to become a nurse. Another girl said that since entering high school she had found that she possessed ability in art and public speaking. Before entering high school she had been mainly interested in music. A boy who gave agriculture as his "free" choice said that his parents had felt he should "take more of a college preparatory course" rather than agriculture. This boy's main interest was in farming, despite his parents' plans. A secretarial student had dropped her secretarial training because she was needed to work part time in her father's store. Just why such work should interfere with her secretarial training is not clear.

Two students showed evidence of social consciousness. They had changed their plans from artist and physical education teacher to psychologist and recreation director, respectively, because they felt their latter choices offered more opportunities for service to others.

7. Sources of Help in Vocational Planning

It may appear repetitious to have asked students to identify the sources from which they received help in vocational planning (question 16) after they had completed the previous question (question 15) dealing with the reasons for changing their occupational plans. However, it must be noted that the persons or circumstances operating in the changes of occupational choice include only a portion of the numerous influences which have played a part in their total planning along vocational lines. Whether a student holds an occupational choice or not, he has, undoubtedly, consulted or received help from a number of sources. Accordingly, all of the students were asked to check the amount of help (none, some, or much) which they felt they had received from each of a number of common sources, such as: the home, the school, employer, job experience, books, magazines, etc. Table XXII gives the distribution of their responses. Percentages are given for boys, for girls, and for boys and girls combined so that comparisons can be made regarding the relative effectiveness of the various sources of help in the lives of these young people.

Before an evaluation can be made regarding the various sources of help presented in Table XXII, attention should be called to certain local conditions which have limited the influence of the counseling personnel at the high school. Since there are only four persons

TABLE XXII

Sources of Help in Vocational Planning

Sources of help	No help			Some help			Much help			Total%
	Girls %	Boys %	B. and G. %	Girls %	Boys %	B. and G. %	Girls %	Boys %	B. and G. %	B. and G.
Mother	18.4	21.3	19.5	54.6	58.2	56.0	27.0	20.5	24.5	100.0
Father	35.7	24.6	31.5	45.9	47.5	46.5	18.4	27.9	22.0	100.0
Relatives	55.6	47.5	52.5	37.3	42.7	39.3	7.1	9.8	8.2	100.0
Teachers (elementary)	77.5	85.3	80.5	17.9	10.6	15.1	4.6	4.1	4.4	100.0
Teachers (junior h.s.)	81.2	76.6	79.4	15.4	19.1	16.9	3.4	4.3	3.7	100.0*
Teachers (h.s. advis.)	48.5	47.5	48.1	42.8	38.5	41.2	8.7	14.0	10.7	100.0
Counselors (h.s.)	60.7	82.8	69.2	34.7	15.6	27.3	4.6	1.6	3.5	100.0
Employer	76.0	60.6	70.1	19.4	25.4	21.7	4.6	14.0	8.2	100.0
Job	52.0	28.7	43.1	34.2	42.6	37.4	13.8	28.7	19.5	100.0
Adult friend	49.5	43.5	47.2	39.8	47.5	42.8	10.7	9.0	10.0	100.0
Pal	53.1	45.1	50.0	40.8	44.3	42.1	6.1	10.6	7.9	100.0
Movies	63.8	60.7	62.6	30.6	30.3	30.5	5.6	9.0	6.9	100.0
Radio	62.2	61.5	62.0	32.2	34.5	33.0	5.6	4.0	5.0	100.0
Books-fiction	77.6	73.8	76.1	16.3	22.2	18.6	6.1	4.0	5.3	100.0
Books-non-fiction	82.1	72.1	78.3	14.3	19.7	16.4	3.6	8.2	5.3	100.0
Periodicals	74.0	59.8	68.6	19.9	32.0	24.5	6.1	8.2	6.9	100.0

* Percentages for the junior high school teachers are based on the total number of students (243) who had had junior high school experience, including the Roosevelt School in Modesto. Total for boys with junior high school experience, 94; for girls, 149. Percentages for all other sources of help based on the total number of boys and girls in the group, 318; boys only, 122; girls only, 196.

available for counseling at the high school, and since only part of their time is alloted to counseling, the figures shown for the counselors in Table XXII are not surprising. It is impossible to do an adequate job of vocational guidance under these conditions. The higher percentages (for help received from counselors) recorded for the girls can partly be accounted for by the following circumstances: (1) the girls' counselor is responsible for the maintenance of the vocational information file for the school so that students look to her for vocational material; (2) the girls' counselor checks the credit standing of all seniors and in the course of these contacts with students is able to help them along vocational lines; (3) the girls' vice principal and girls' counselor are not cumbered with as much administrative detail as are the boys' counselors.

An effort was made to ascertain the relative influence of the high school advisory and classroom teachers by having the students check them separately on the questionnaire. The figures for the advisory teachers are presented in Table XXII. On that part of the check list dealing with classroom teachers, students were asked to write in the names of only those classes in which they felt they had received help in vocational planning. The list of subjects, too long to be included in Table XXII, is presented in Table XXIII. Specific classroom subjects, as given by students, have been included in their respective subject matter areas in order to avoid a long and cumbersome list. For example, subjects such as bookkeeping and stenography have been included in the figures for the commercial area. The amount of help which students apparently received from classroom

TABLE XXIII

Amount of Help in Vocational Planning Received from Classroom Subjects

Subject matter areas	Number receiving some help	Number receiving much help	Total number receiving help	No. of seniors in course*
Agriculture	10	7	17	15
Art	9	5	14	3
Commercial	63	37	100	87
English	32	15	47	All
History	12	2	14	All
Home Economics	19	21	40	28
Language	3	0	3	86
Library	1	0	1	3
Mathematics	2	16	18	86
Music	4	8	12	2
Phys. Education (Girls)	2	2	4	All girls
Phys. Education (Boys)	2	2	4	All boys
Science	22	26	48	All
Trades and Industry	12	20	32	31
Totals	193	161	354	

* The number of seniors listed in each of the vocational or prevocational courses include only those who are majoring (completing a minimum of 50 semester periods) in that field, such as: agriculture, art, commercial, home economics, music, trades and industry. The number of students helped may exceed the number of students majoring in a given course because other students elect classes in this area. Subjects required of all students are: English, history, science, and physical education. Library is an elective subject with a limited enrollment. Language and mathematics aredefinite requirements for the university preparatory course.

teachers and classroom experiences is rather disappointing, according to the figures presented in Table XXIII. Perhaps if the students had been given a list of all high school subjects to check, a more accurate check might have been obtained. It is probable that students were either unable or not interested in trying to recall all of the classes in which they had received help in vocational matters.

If a comparison is made (Table XXIII) between the number of students majoring in a given vocational area (agriculture, art, commercial, home economics, music, or trades and industry) and the number of students who felt they had been helped by contact with teachers and subject matter in that area, it will be seen that the number helped exceeds the number of students enrolled as majors. This is due to the fact that other students, not majors, have elected to take work in the department and have been helped thereby. In home economics, for instance, there were only twenty-eight majors, whereas forty students stated they had received definite vocational help in home economics classes.

For the academic classes the number of students helped, vocationally, is small compared with the number enrolled. Although these subjects are not included in the curriculum because of their vocational value, they can be avenues through which students may gain a wider view of vocational possibilities. That the vocational side has not been entirely overlooked is evident from the responses given by students for English and science. Ninety-five senior students have received help toward vocational planning in these two subject matter areas.

To facilitate the interpretation of the data given in Table XXII, two other tables were prepared (Tables XXIV and XXV) listing the sources of help in vocational planning, according to the percentage of student responses.

Table XXIV shows the sources from which students felt they had received much help. The three sources from which both boys and girls had received most help were: mother, father, and job. For boys, the job received the highest number of responses (28.7 per cent), with father in second place (27.9 per cent), and mother third (20.5 per cent). The order of responses for girls was reversed: (1) mother 27.0 per cent, (2) father 18.4 per cent, (3) job 13.8 per cent. Boys received more help from their fathers; girls, from their mothers. This appears to be a normal state of affairs, and shows that boys naturally turn to their fathers for vocational counsel, while girls are more apt to seek guidance from their mothers. The combined influence of father and mother was far more potent than any of the other sources of help. Undoubtedly the reason jobs received a higher number of responses from the boys than from the girls was that the boys have had more job opportunities. The job experiences of girls have also been limited, to a great extent, to summer jobs in canneries or other food processing plants. These jobs are a good source of income, but of little value as a laboratory experience in vocations. The differences in job experiences of boys and girls was further indicated by their responses regarding the help received from their employers. More boys (14.0 per cent) reported receiving much help from employers than did girls (4.6 per cent). Apparently

TABLE XXIV

Sources of Much Help in Vocational Planning Distributed According to Percentage of Student Responses

Girls	Per cent	Boys	Per cent	Girls and boys	Per cent
Mother	27.0	Job	28.7	Mother	24.5
Father	18.4	Father	27.9	Father	22.0
Job	13.8	Mother	20.5	Job	19.5
Adult friend	10.7	Teachers (h.s. adv.)	14.0	Teachers (h.s. adv.)	10.7
Teachers (h.s. adv.)	8.7	Employer	14.0	Adult friend	10.0
Relatives	7.1	Pal	10.6	Relatives	8.2
Pal	6.1	Relatives	9.8	Employer	8.2
Books (fiction)	6.1	Adult friend	9.0	Pal	7.9
Periodicals	6.1	Movies	9.0	Movies	6.9
Movies	5.6	Books (non-fiction)	8.2	Periodicals	6.9
Radio	5.6	Periodicals	8.2	Books (fiction)	5.3
Teachers (elementary)	4.6	Teachers (junior h.s.)	4.3	Books (non-fiction)	5.3
Counselors (h.s.)	4.6	Teachers (elementary)	4.1	Radio	5.0
Employer	4.6	Radio	4.0	Teachers (elementary)	4.4
Books (non-fiction)	3.6	Books (fiction)	4.0	Teachers (junior h.s.)	3.7
Teachers (junior h.s.)	3.4	Counselors (h.s.)	1.6	Counselors (h.s.)	3.5

Note: Percentages for girls are based on the total of 196 responses; for boys, the total of 122 responses; for both boys and girls, 318 responses. Since the girls outnumbered the boys, their responses affected the combined percentages (for both boysand girls) to a greater degree. See Table XXII for the complete tabulation of sources of help in vocational planning.

boys have had more contacts with employers on the job.

The influence of teachers as vocational counselors varies according to the grade level. Elementary teachers are not expected to give a great deal of time to vocational guidance, particularly in the lower and middle grades, yet 4.4 per cent of the students felt they had received a great deal of help from their elementary teachers.

Not all of the students in the group had had junior high school experience. Seventy-five reported that they had come from eighth-grade elementary schools, most of them from the rural schools of the local district. A check was made of the responses of these rural students to determine how many of them had specified their seventh or eighth grade teacher as a source of much help in vocational planning. Only four rural students checked their elementary teachers as a source of much help, two of them naming the eighth grade teacher specifically. Of the 243 students who had attended junior high schools, including the Roosevelt School in Modesto, only 3.7 per cent felt they had received much help from their junior high school teachers. Apparently very few seventh and eighth grade teachers in the Modesto area, according to student opinion, have been effective as vocational counselors.

The role of the advisory and classroom teachers in the high school have been treated in preceding paragraphs. The advisory teachers appear fourth on the combined list for boys and girls in Table XXIV.

Students have also consulted with adult friends and relatives to a considerable degree, showing a tendency to seek additional help

outside of the immediate family circle. An uncle, an aunt, or a family friend have been the counselor in these cases.

Teachers and counselors have observed that students are influenced in their vocational choices by the opinions of their fellow students, particularly their closest pals. A girl, for instance, may choose to be a nurse because her best pal plans to be one, and she thinks it would be so much "fun" for them to go through training together as roommates. Or a boy may not give his real vocational choice as writing because his friends think it is a "sissy" vocation. Whether or not pals are good sources of vocational help, judged from the adult viewpoint, 7.9 per cent of the students felt their pals had been of decided help to them.

Among the sources of much help, other than individuals, motion pictures and periodicals rank highest on the list (6.9 per cent). If a comparison is made of the responses of boys and girls, it will be noted that motion pictures rate higher among the boys (9.0 per cent) than among the girls (5.6 per cent). No distinction was made on the questionnaire between the so-called educational and entertainment type of pictures. The higher response among the boys is probably due to the fact that pictures dealing with inventions, scientific discoveries, travel, or adventure have a greater appeal to boys than girls. It is probable that adolescent girls attend movies more for entertainment and are not as apt to pick up bits of information of a vocational nature as are the boys.

Books and magazines have been utilized by students in their search for information regarding vocations. Periodicals rank

somewhat higher than books of fiction and non-fiction on the combined list for boys and girls. A greater percentage of boys (8.2 per cent) have consulted periodicals for help than have the girls (6.1 per cent). Books of fiction proved to be more helpful to the girls than non-fiction while boys rated non-fiction considerably above fiction. Boys have received more vocational help from books and periodicals than have girls. Students were asked to give the names of the books and periodicals which had been helpful to them, but very few do so. It was not feasible to prepare a list from the few titles given.

The radio, although not one of the important sources of help to most of these students, has played a definite part in the thinking of 5.0 per cent of them. Girls have evidently received more help (5.6 per cent) from the radio than boys (4.0 per cent). Perhaps girls spend more time listening to radio programs than boys, and therefore have gleaned more help from this source. Radio programs during the war years have also brought information and appeals to women regarding jobs which would contribute to the war effort. These appeals may have had their influence upon student thinking.

Table XXIV shows that students have received most of their help from contacts with adults, in the home, on the job, or in the school. It is important, therefore, that parents, employers, and teachers be prepared to give students accurate and up-to-date information, or be able to refer them to other reliable sources for help.

Table XXV presents the list of sources from which students felt they had received some degree of help, listed according to the percentage of student responses. The sources of help are the same as

TABLE XXV

Sources of Some Help in Vocational Planning Distributed According to Percentage of Student Responses

Girls	Per cent	Boys	Per cent	Girls and boys	Per cent
Mother	54.6	Mother	58.2	Mother	56.0
Father	45.9	Father	47.5	Father	46.5
Teachers (h.s. adv.)	42.8	Adult friend	47.5	Adult friend	42.8
Pal	40.8	Pal	44.3	Pal	42.1
Adult friend	39.8	Relatives	42.7	Teachers (h.s. adv.)	41.2
Relatives	37.3	Job	42.6	Relatives	39.3
Counselors (h.s.)	34.7	Teachers (h.s. adv.)	38.5	Job	37.4
Job	34.2	Radio	34.5	Radio	33.0
Radio	32.2	Periodicals	32.0	Movies	30.5
Movies	30.6	Movies	30.3	Counselors (h.s.)	27.3
Periodicals	19.9	Employer	25.4	Periodicals	24.5
Employer	19.4	Books (fiction)	22.2	Employer	21.7
Teachers (elementary)	17.9	Books (non-fiction)	19.7	Books (fiction)	18.6
Books (fiction)	16.3	Teachers (junior h.s.)	19.1	Teachers (junior h.s.)	16.9
Teachers (junior h.s.)	15.4	Counselors (h.s.)	15.6	Books (non-fiction)	16.4
Books (non-fiction)	14.3	Teachers (elementary)	10.6	Teachers (elementary)	15.1

Note: Percentages for girls are based on the total of 196 responses; for boys, the total of 122 responses; for both boys and girls, 318 responses. Since the girls out-numbered the boys, their responses affected the combined percentages (for both boys and girls) to a greater degree. See Table XXII for the complete tabulation of sources of help in vocational planning.

nose listed in Table XXIV, but it will be noted that the percentages run considerably higher for each since the students who had received some help from these sources far outnumbered those who had received much help.

A comparison of Tables XXIV and XXV also reveals some interesting similarities, and variations, in the distribution of the items. It will be noted on both of the combined lists (for boys and girls) that mother is in first place and father in second. Table XXV shows the adult friend in third place instead of the job (Table XXIV), while the student's pal has superseded the high school advisory teacher for fourth place. The radio has reached a higher number of students with some help than have the motion pictures. Also, a larger number (27.3 per cent) of students have received some degree of vocational guidance from the high school counselors. Only 3.5 per cent reported having received a great deal of help from the counselors (Table XXIV). Job experience and employer were not named by as many students (Table XXV) as sources of some help as might have been expected.

More girls (42.8 per cent) checked the high school advisory teacher as having been of some help than did the boys (38.5 per cent). This is in contrast to the relative ratings given the advisory teacher as a source of much help by boys (14.0 per cent) and girls (8.7 per cent). There are no factors apparent in the local school situation which would account for these differences.

Books of fiction were given a higher place than non-fiction (Table XXV) by both boys and girls. Boys have used the printed page

to a greater degree than girls in search of vocational information. This is evident from the percentages given in Tables XXIV and XXV.

The radio as a source of some help, interestingly enough, received a slightly higher number of responses from the boys than from the girls; as a source of much help, it was favored by the girls.

In addition to checking the sources of help included on the list, students were allowed to write in any additional sources from which they had received help in vocational planning. Some of the sources given were repetitions of those already checked on the list. Comments may have been added for emphasis or clarification of some item checked. Other students included personal contacts and experiences which had been of special significance to them; sources of help which would have been missed on the check list. For instance, one girl who had posed for an artist and had also modeled clothing in a store, decided, as a result of these experiences, to become a fashion model. One of the boys who planned to become a mechanic felt that his interest in mechanics had developed from owning and repairing his own car. Working at a swimming pool in the summer had influenced one student to select physical education as her field of teaching. A boy, raised in the mountains, had developed a love for nature and the out of doors which made the calling of the forest ranger a natural choice for him.

The appeals, during the war, for girls to become nurses and occupational therapists influenced a number of girls to consider these fields of service. The opportunities and advantages offered in the Cadet Nurse Corps made nursing more appealing. Talks with

nurses in the field had also proved helpful.

Students planning for other vocations likewise reported that contacts with adults working in the field of their choice had been of help to them. Doctors, photographers, pilots, a music teacher, and a Girl Scout executive were listed by students in this connection. Vocational conferences or assemblies arranged by the schools provided further opportunities for contacts with successful individuals in the field. Again, it is evident that students look to qualified adults for help and counsel.

8. Work Experience and Occupational Choices

Since 19.5 per cent of the seniors indicated that their job experience had been of much help to them in their vocational planning, and an additional 37.4 per cent rated the job as of some help in planning, it was interesting to see how many of them had held jobs, and whether or not these jobs were related to the vocations which they had chosen to follow. Students were asked to list the jobs for which they had received pay. The reason for limiting the list to pay jobs was to avoid having students give the routine chores which most of them would be required to do at home as part of their share of family responsibilities. Only thirteen students, ten girls and three boys, stated that they had never worked for pay. The other 305 students (95.9 per cent) had worked at a wide variety of jobs totaling 669 in all. Five students had held as many as six different jobs, 16 had held five jobs, 32 had held four, 95 had held three, 83 had held two, and 74 had held only one job.

Table XXVI presents a tabulation of the summer and part-time jobs

TABLE XXVI

Part-time and Summer Jobs Held by 119 Senior Boys

Types of jobs	Number
Ranch work	57
Canneries and food processing plants	45
Retail stores, sales work, stock work etc.	37
Factory work	30
Garage and shop work	19
Truckdriving	13
Delivering and selling newspapers and magazines	11
Service station attendant	11
Yard work	6
Warehouse helper	5
Carpentry	5
Janitorial work	5
Office work	4
Swamper	4
Bakery, miscellaneous jobs	4
Photography	3
Fountain service	3
Chemical plant	3
Painting	3
Restaurant, miscellaneous jobs	3
Lumber yard and mill work	3
Electrical work	2
Used car business	2
Post Office	2
Mule skinner	2
Bowling alley, setting pins	1
Postal Telegraph, delivery boy	1
Modesto Bee, mailroom	1
Modesto Irrigation District	1
Insect control, assistant	1
Fruit inspector, assistant	1
Fish and game warden's assistant	1
Forest Service, blister rust control	1
Department of Agriculture, assistant	1
Iceman	1
Golf caddy	1
Railroad crewman	1
Meat cutter	1
Hatchery	1
Porter, Yosemite Valley	1
Counselor, summer camp	1
Designing Christmas cards	1
Total number of jobs	299

held by the 119 senior boys who had worked for pay; while Table XXVII presents the tabulation of jobs held by the 186 senior girls. It will be noted that boys have worked at a greater variety of jobs than girls, and that the average number of jobs (2.5 per student) held by boys is higher than that for girls (1.99 per student).

Despite instructions to the contrary, some students listed the name of the company or agency for which they had worked instead of specifying the kind of work done on the job. This made it difficult to determine the type of work experience they had had, and its implications for vocational planning. In cases where the type of work was not given, the nature of the employing agency has been listed in Tables XXVI and XXVII.

The majority of jobs held by boys included work on ranches, in food processing plants, stores, factories, and in the mechanical trades. These represent the kinds of jobs most available in an agricultural area with its supporting industries and centers of trade located in or near the city.

Other positions, not so available, were filled by students who possessed the special skills or the personal qualifications necessary such as: photographer, assistant to fruit inspector, assistant to the fish and game warden, assistant in insect control, assistant to chemist, and counselor at a summer camp.

One boy created his own job by designing Christmas cards. He possesses definite talent in art and is planning for a career in this field.

Well over half of the jobs held by girls had been limited to

TABLE XXVII

Part-time and Summer Jobs Held by 186 Senior Girls

Types of jobs	Number
Canneries and food processing plants	116
Retail stores, saleswork, stockwork etc.	71
Child care	27
Office work	24
Fountain service	20
Housework	19
Factory work	16
Telephone operator	13
Usherette, theater	12
Waitress	12
Cashier	9
Ranch work	6
Hospital aid	5
Bakery	3
Restaurant, miscellaneous jobs	3
Print shop	2
Time checker	2
Teacher, Daily Vacation Bible School	1
Teacher, music lessons	1
Window designing	1
Laundry work	1
Public library, assistant	1
Post Office	1
Modeling	1
Milk testing	1
Sewing, dress alterations	1
Postal Telegraph	1
Total number of jobs	370

canneries and other food processing plants. Retail stores had also employed a considerable number of girls. In contrast to the cannery work which is seasonal, these jobs in retail stores provide part-time employment during the school months as well as full-time employment in the summer.

A number of girls had been employed at interesting and, in some cases, rather unusual jobs. Two girls had been employed in a print shop; another had arranged window displays; while another had made alterations in a ladies' ready-to-wear shop. One girl who was planning to be a music teacher had acquired experience by giving music lessons to children in her neighborhood. Three others had found interesting jobs as a milk tester, model, and library assistant.

Jobs may function as a means of vocational exploration both in a negative and positive way. When a student states that his job experience has been of help to him in vocational planning, he does not necessarily mean that the job has influenced him in favor of a particular vocation. On the contrary, job experience in a certain vocational area may have caused the student to eliminate that field from his plans because he has found from first-hand experience that he is not interested in or suited for that type of work. That job experience has functioned in a negative as well as in a positive manner is evident from a check of student responses. Table XXII showed that 43.1 per cent (137 students) felt that the job had been of no help to them in vocational planning. The remaining 56.9 per cent (181 students) indicated that they had either received some help or much help from their job experience. Now if these responses regarding the value of job

experience are checked with the number who had held jobs which were either the same or closely related to their vocational choice, a considerable difference will be noted. Only thirty-three students (10.4 per cent) chose to follow vocations in which they had had job experience. By adding to this number the additional twenty-one students (6.6 per cent) who had worked at jobs related to their "free" choice, the total number of students reaches fifty-four (17.0 per cent). Since 56.9 per cent of the students gave job experience as a help in vocational planning and only 17.0 per cent have chosen an occupation (including the "free" choice) in which they have had job experience, then for 39.9 per cent of these students the value of job experience must mean something other than laboratory training in their chosen occupation. When these (39.9 per cent) students checked job experience as a definite source of help in vocational planning, it is possible that some had in mind the negative effect which certain jobs had had upon their plans, or they may have meant that contact with the adult world of work had given them a more realistic attitude toward vocations in general. It was interesting to note that a number of students who had no occupational choice checked job experience as having been of much help in their planning, a further indication that the job may have had a negative effect upon choice.

Students were asked to name the job they had liked best, and to give the reason why they preferred it above the others. Their responses to this question, it was hoped, would indicate what features of a job make it enjoyable and attractive to people, and to what extent students are sensitive to the vocational implications of job

experience.

Over half of the students who had worked for pay either did not respond to the question, or failed to indicate the reason for liking the job they named. Evidently many students had not enjoyed their jobs, while others were unable to identify the reason for their job preference.

The responses of the 145 students who gave complete answers, including the name of the job and the reason for their preference, are given in Table XXVIII. The reasons given were numerous and varied, but it was found that in many cases the same idea was expressed again and again, only in different terms. Accordingly, the responses were grouped with respect to the main idea expressed, and it was found that students had given fifteen distinct reasons for job preference. These fifteen reasons are given in Table XXVIII, together with the number of student responses and the jobs named for each.

Fifty-two students gave rather vague or indefinite reasons, merely stating that they preferred a certain job because "it is interesting" or because they "like that type of work." The ambiguity of these responses made it impossible to determine whether the job was enjoyed because it was in line with vocational interests, or whether other factors present in the situation made it interesting. It will be noted that quite a variety of jobs were named by these fifty-two students.

There were only fifteen students who were able to point to a particular job as a laboratory experience in the vocation of their choice. That these students had sensed the vocational value of the

TABLE XXVIII

Reasons Why Students Liked Certain Jobs

Reason	Number of responses	Kinds of jobs listed
Interesting to me or I like that type of work	52	truck driving, electrical work, ranch work, photography, warehouse, saleswork, floral shop, assistant to fish and game warden, mechanic, shop work, service station, office work, child care, waitress
Chance to meet the public	38	saleswork, porter, ice man, office work, usherette, cashier, waitress, counselor in camp, fruit processing
In line with my vocational interests or Will help me in my future vocation	15	photography, carpentry, blacksmith, mechanic, auto body repair, saleswork, office work, drug store, child care, hospital aid, model
Good pay	13	fruit processing, ranch work, can factory, saleswork, office work, telephone operator
Freedom to make decisions or "own boss"	4	ranch work, selling papers, print shop
Fun	4	photography, warehouse, fruit processing, dishwasher (Yosemite Valley)
Easy work	3	office work, truck driving, fruit processing
Work out-of-doors	3	ranch work, assistant to fish and game warden
Liked associates on the job	3	office work
Chance to help others	2	hospital aid, fruit processing
Chance for advancement	2	telephone operator, lumber yard
Chance to learn	2	mechanic library assistant
Good working conditions	2	telephone operator, saleswork
Creative work	1	floral shop
Hard work	1	fruit processing

Note: A large number of students did not respond to the question: "Which job did you like best, and why?" Some gave the name of the job but no reason. Some had not liked any of their jobs particularly.

job was evident from their comments: "Gave me insight into my future work," or "Will help me in my future vocation," or "Gave me experience toward my vocation." Eleven different types of work were listed by these students, most of them demanding a certain amount of skill or aptitude.

Individual differences in temperament and taste played a part in job preferences. A large number of students liked jobs, such as, selling, ushering, or office work because they enjoyed meeting the public and being with other people. Others preferred jobs in which they were given freedom to make their own decisions and to manage for themselves. A few students felt that jobs giving them the opportunity to work out-of-doors were preferable to others. A student who had worked in a floral shop felt that this experience had been most enjoyable because she had been allowed to exercise her artistic talent and to do creative work.

Some students showed seriousness of purpose and mature judgment in their evaluation of jobs. The students who looked upon their jobs as opportunities to serve others, to gain new ideas and skills, to advance in their chosen field, or to do something new and creative, showed discernment and a sense of values.

In contrast to these students who viewed their jobs as opportunities to help others or to improve themselves, a number of students looked upon their jobs as a source of good pay, fun, or easy work. To thirteen students, good pay was the most important item to be considered. The importance of good pay to these students can readily be understood since their earnings are either limited to the summer

months or to part-time jobs during the school year. The jobs listed as "fun" ranged from photography to dishwashing. It should be noted that the dishwashing was done in Yosemite Valley. Perhaps there was more fun off duty than on duty. Only three students listed "easy work" as the most desirable feature of their jobs.

Since jobs in the fruit processing plants had claimed more students than any other type of work, it was interesting to note how students reacted to these jobs. A check of Table XXVIII shows that no students mentioned fruit processing jobs as being interesting or in line with their vocational interests. However, such jobs were preferred by students for a number of other reasons: chance to meet the public, good pay, fun, easy work, chance to help others, and, in one instance, because of the hard work involved. The variety of jobs available in fruit processing may account for the variety of reasons given for preference.

9. Hobbies and Occupational Choices

A study of the factors influencing students in their occupational choices would not be complete without an examination of their avocational interests. Hobbies possess vocational potentialities; an activity begun as a hobby may develop into a full-time vocation.

In response to the question: "Do you have a hobby?", 212 students said, "Yes" and 106 said, "No." The number of hobbies listed ranged from one to five per person. The proportion of girls who enjoyed some type of hobby was slightly higher than that for boys, 68.4 per cent and 63.9 per cent, respectively.

Table XXIX lists the hobbies enumerated by boys; Table XXX, those

TABLE XXIX

Hobbies Enjoyed by Boys

Type of hobby or activity	Number
Collecting	
Stamps	16
Phonograph records	2
Match covers	2
Foreign money	2
Ship models	1
Bullets	1
Minerals	1
Books	1
Shells	1
Signs	1
Letter book	1
Photographs	1
Model building--ships, airplanes	18
Hunting	9
Fishing	8
Photography, taking pictures etc.	6
Music	5
Art, drawing etc.	5
Reading	5
Horses	4
Mechanics	3
Hiking	2
Ornithology	2
Chemical experiments	2
Caring for animals	2
Guns	2
Gardening	2
Movies	2
Writing	2
Camping	1
Traveling	1
Riding motorcycle	1
Making animal models	1
Tinkering with electrical gadgets	1
Trapping birds	1
Boy Scouts	1
Studying people	1
Printing	1
Woodwork	1
Acting	1
Motors	1
Total Number	121

Note: 78 out of 122 boys (63.9 per cent) enjoyed one or more hobbies.

TABLE XXX

Hobbies Enjoyed by Girls

Type of hobby or activity	Number of responses
Collecting	
Post cards and snapshots	18
Pictures - movie stars, home plans etc.	17
China and glassware	14
Stamps	12
Scrapbook material	8
Poetry	6
Newspaper articles and old newspapers	4
Knicknacks and miniatures	3
Books	3
Coins	3
Foreign articles	3
Dolls, various types	2
Insects	2
Songs	2
Human hair	1
Recipes	1
Stuffed animals	1
Phonograph records	1
Stories of nurses	1
Jewelry	1
Miscellaneous articles - tally cards, match covers etc.	6
Sports	26
Music, vocal and instrumental	25
Art, sketching, painting etc.	20
Reading	15
Dancing	10
Sewing	6
Photography	6
Crafts	5
Animals, horses and dogs	3
Designing houses and landscapes	2
Gardening	2
Hunting and fishing	2
Travel	1
Baking	1
Aeronautics	1
Reading and memorizing poems	1
Psychology	1
Spanish language	1
Total Number	237

Note: 134 out of 196 girls (68.4 per cent) enjoyed one or more hobbies.

for girls. It will be noted that girls enjoyed the collecting type of hobbies more than boys. They have collected a wide variety of articles, some of which have artistic, educational, or vocational value, while others have little worth. Boys' leisure time interests have involved more activity, and, on the whole, have shown more creative ability and imagination on the part of boys than of girls.

A comparison was made of the hobbies and occupational choices (alternate and "free" choices included) of students to ascertain to what extent they chose occupations similar to their avocational interests. Tables XXXI and XXXII show forty instances (eleven boys and nineteen girls) in which there was a definite relationship between hobbies and occupational choices. Slightly over 14.0 per cent of students with hobbies chose occupations identical with, or similar to, their leisure time activities. It is possible, of course, that other cases, in which the relationship was less obvious, may have been overlooked.

In the area of arts and crafts there were, proportionately, more cases of similarity between hobbies and occupational choices than in any of the other fields. Students engaged in acquiring a general education may consider these art activities, carried on in their spare time, as hobbies, but in reality they are prevocational activities through which they are gaining greater skill in their chosen field.

In only three cases were the collecting type of hobbies found to be similar to occupational choices. One girl who was planning to be a beauty operator was making a collection of hair samples; another who hoped to become a writer was collecting poems. The boy who collected

TABLE XXXI

Hobbies Related to Occupational Choice (Boys)

Type of hobby or activity	Occupational choice	Number
Art	aircraft designer	1
Drawing, mechanical, freehand	commercial artist	1
	engineering (alternate choice)	1
Building model airplanes	artist	1
Building model ships	Maritime Service	1
Collecting stamps	stamp dealer	1
Photography	photographer	1
Motors	electrical engineer	1
Hunting and fishing	forest ranger	1
Sports	physical education teacher	1
	professional baseball (free choice)	1
Total		11

Note: Of seventy-eight boys who listed hobbies, eleven (14.1 per cent) engaged in hobbies related to their occupational choice.

TABLE XXXII

Hobbies Related to Occupational Choice (Girls)

Type of hobby or activity	Occupational choice	Number
Art	artist (free choice)	2
Drawing	fashion illustrator	1
	illustrator for scientific publications	1
	commercial artist (alternate choice)	1
Crafts	applied arts and craft	1
Collecting pictures of house plans	interior decorator	1
	Housewife	1
Collecting hair samples	beauty operator (alternate choice)	1
Collecting poetry	writer (free choice)	1
Planning Landscapes	landscape artist	1
Dancing	actress	1
Music	musician	3
Sports	physical education teacher	2
Writing	journalist	2
Total		19

Note: Of 134 girls who listed hobbies, nineteen (14.2 per cent) named leisure time activities related to their occupational choice.

stamps was definitely preparing himself for his future vocation as a stamp dealer.

It would seem that hobbies, although not so important an influence in occupational choices as some of those previously considered in this chapter, should not be overlooked in vocational guidance. A hobby may be an expression of the student's conscious occupational choice confined to his leisure moments because of the press of other duties, or it may be the means of arousing a latent interest which will later develop into a lifetime pursuit.

CHAPTER III

SOME POINTS OF COMPARISON BETWEEN STUDENTS HAVING AN OCCUPATIONAL CHOICE AND THOSE WITHOUT A CHOICE

As previously noted, 59.4 per cent of the senior students in this study gave an affirmative answer regarding an occupational choice; 40.6 per cent a negative answer. The "choice" group included 189 students; the "no-choice" group, 129 students. It was felt that there might be some significant factors in the background, interest patterns, mental ability, and achievement of the students in these two groups which would have a bearing upon the problem of occupational choice. Accordingly, the students in the "choice" group were compared with those in the "no-choice" group to determine whether there were any significant differences between them.

1. Occupation of Fathers

The first comparison made was that of the occupational status of the fathers of these two student groups. Table XXXIII shows this occupational distribution. It will be noted that there are proportionately more fathers of the "no-choice" group in the professional, farmer, and managerial classes. Whether the higher proportion of fathers in these three occupational groups is merely coincidental, or whether it is indicative of busy fathers who have not had time to give vocational counsel to their children, it is difficult to say. Among the operatives and laborers the proportion of fathers of the "no-choice" group is also larger.

Among the clerical-sales, craftsmen, protective and general service workers the proportion of fathers of the "choice" group is somewhat larger, but not significantly so. Table V previously showed that

TABLE XXXIII

Occupation of Fathers for "Choice" and "No-choice" Groups

Occupation of fathers	"Choice" group Number	Per cent	"No-choice" group Number	Per cent
Professional and semi-professional	5	2.6	7	5.4
Farmers and farm managers	41	21.7	33	25.6
Proprietors, managers, and officials	31	16.4	27	20.9
Clerical, sales etc.	12	6.4	8	6.2
Craftsmen etc.	36	19.0	19	14.7
Operatives etc.	16	8.5	12	9.3
Domestic service	0	0.0	0	0.0
Protective service	5	2.6	2	1.6
Service workers exc. domestic	7	3.7	3	2.3
Farm laborers	4	2.2	3	2.3
Laborers, exc. farm and mine	7	3.7	6	4.7
Unknown	5	2.6	1	.8
Deceased	20	10.6	8	6.2
Totals	189	100.0	129	100.0

the proportion of boys electing to become craftsmen approximates that of the fathers so employed.

On the whole, however, the occupational distribution of the fathers of the two groups showed no significant differences. Fathers of all occupational gradations, except domestic service, were represented by both groups of students. The differences in the socio-economic background of the students apparently had not functioned in the matter of making a definite occupational choice.

2. Mental Ability

The two groups were also compared with regard to mental ability, as indicated by intelligence quotients. The distribution of intelligence quotients for the two groups is shown in Table XXXIV. The "no-choice" group showed 28.7 per cent of the students in the three top steps (above 109); the "choice" group 26.5 per cent. In the so-called average intelligence range (90-109) the "no-choice" group showed 57.3 per cent; the "choice" group 62.9 per cent. For the last two steps (70-89) the "no-choice" group showed 14.0 per cent; the "choice" group 10.6 per cent.

The range of intelligence quotients for the two groups was comparable, the "choice" group having a somewhat wider range. The median for the choice group (102.8) was only slightly higher than that for the "no-choice" group (101.6).

It can be seen, therefore, that as far as mental ability is concerned the two groups were quite similar. There were very able students and also very limited ones in both groups.

TABLE XXXIV

Distribution of "Choice" and "No-choice" Groups According to Intelligence Quotient

I.Q.	"Choice" Group Number	"Choice" Group Per cent	"No-choice" Group Number	"No-choice" Group Per cent
130-139	2	1.1	0	0.0
120-129	6	3.2	9	7.0
110-119	42	22.2	28	21.7
100-109	66	34.9	35	27.1
90- 99	53	28.0	39	30.2
80- 89	17	9.0	13	10.1
70- 79	3	1.6	5	3.9
Totals	189	100.0	129	100.0

3. Scholastic Standing and Mental Ability

Since the students in the two groups showed themselves to be comparable in mental ability it would be expected that their scholastic achievement would also be comparable. The only measure of achievement available for all of these students was that of grades, or marks, given by classroom teachers. Although these grades are not as objective a measure of achievement as might be desired, they do provide a measure which is comparable for all students.

Before a comparison of the mental ability and the achievement of the students in the two groups could be made, it was necessary to examine the scholastic record of every student, tally the number of A's (superior work), B's (good work), C's (average work), D's (barely passing work), and F's (failing work), and compute his scholastic average. Students were then segregated into A, B, C, or D groups according to their scholastic average. In these groupings students holding an occupational choice were separated from those with no choice. The intelligence quotients for the students in each scholastic-average group were also tabulated and the median I.Q. obtained. Table XXXV shows a tabulation of the results.

A number of interesting observations should be made in connection with the figures presented in Table XXXIV. It will be noted that the "choice" group has a higher percentage of students in the A and B classifications. There is an appreciable difference in the B classification, 41.8 per cent being recorded for the "choice" group and only 25.6 per cent for the "no-choice" group. In the C and D classifications the percentage of students in the "no-choice" group is consi-

TABLE XXXV

Distribution of "Choice" and "No-choice" Groups According to Scholastic Average and Median I.Q.

Scholastic average	"Choice" group Number	Per cent	Median I.Q.	"No-choice" group Number	Per cent	Median I.Q.
A	12	6.4	112	8	6.2	120
B	79	41.8	106	33	25.6	107
C	87	46.0	98	74	57.4	99
D	11	5.8	93	14	10.8	94
Totals	189	100.0		129	100.0	

Note: There were 118 F's recorded for the 189 students in the "choice" group and 112 F's recorded for the 129 students in the "no-choice" group.

derably larger than that for the "choice" group. A check of the number of failures revealed that there were 118 F's recorded for the 189 students in the "choice" group and 112 F's for the 129 students in the "no-choice" group. Although there were sixty more students in the "choice" group there were only six more failing grades on record for them than for the "no-choice" group. It is evident, therefore, from the scholastic averages and the number of failures recorded for each group that the "no-choice" group has not achieved as well as the "choice" group.

Further evidence to this fact is furnished by an examination of the median I.Q. for each of the A, B, C, and D classifications. It should be noted that the median I.Q. for the "no-choice" group in each of the above classifications is slightly higher than that for the corresponding "choice" group. Students in the "no-choice" group possessed as much ability as the students in the "choice" group, but they had not put forth the same amount of effort in their classwork.

These differences in scholastic achievement between two comparable student groups was due, evidently, to differences in motivation. Those with an occupational choice would have a definite goal in mind and would look upon their high school work as preparatory to the attainment of that goal. Under these conditions it would be expected that they would do better work than those who had no definite vocational goal in mind and who would be apt to drift through high school because they failed to see the "point" of much of their classwork.

4. Course of Study Chosen

Some of the courses of study at Modesto High School are definitely

vocational, while others are more of the prevocational or preparatory type. The trades and industry, agriculture, and commercial courses are set up to give training in specific vocational skills. There are off-campus assignments in shops, business establishments, or farms for these students as well as the regular classroom training. The art, music, and home economics courses are more prevocational, although the Home Economics Department offers a Smith-Hughes program as well as a general course. The general academic and university preparatory courses, as their names imply, offer work of a general or preparatory type.

A check was made of the courses of study followed by the students who had made an occupational choice and of those who had not. Table XXXV shows the distribution of these two groups according to the course of study chosen.

It would be anticipated that the majority of students in the vocational courses, such as, agriculture, commercial, and trades and industry, would hold an occupational choice. However, the figures for these three courses (Table XXXVI) show a surprisingly large number of students in the "no-choice" group. Of the 133 students enrolled in these three vocational courses, fifty-one or 38.3 per cent had no occupational choice. The proportion of students without choice was rather consistent in all three courses. Two-fifths of the students in the agriculture course had no choice, while in both the commercial and trades and industry courses somewhat over one-third of the students reported no choice.

It would be difficult to determine the exact reasons why these

TABLE XXXVI

Course of Study Followed in High School by "Choice" and "No-choice" Groups

Course of study	"Choice" group Number	Per cent	"No-choice" group Number	Per cent	Total Number	Per cent
Agriculture	9	2.8	6	1.9	15	4.7
Art	2	.6	1	.3	3	.9
Commercial	53	16.7	34	10.7	87	27.4
General Academic	36	11.3	30	9.5	66	20.8
Home Economics	12	3.8	16	5.0	28	8.8
Music	2	.6	0	0.0	2	.6
Trades and Industry	20	6.3	11	3.5	31	9.8
University Preparatory	55	17.3	31	9.7	86	27.0
Totals	189	59.4	129	40.6	318	100.0

Note: All percentages are based on the total of 318 cases.

fifty-one vocationally trained students had not made a definite occupational choice. Some of these students had undoubtedly found their high school vocational courses to be profitable and in line with their capabilities, but had been unable to narrow their decisions down to specific occupations. Other students apparently had made poor choices as far as courses were concerned. Finding themselves in vocational classes outside of their sphere of interests or abilities, they were either unwilling or unable to change over to other courses. For these students, the vocational courses may well have had a negative effect upon occupational choice. Still other students selected a given course, not because they were particularly interested in the training it offered, but because they felt that the requirements of the course would be less stringent than those of other courses offered. It has been observed that there are drifters registered in all courses, apparently interested only in meeting the minimum requirements for graduation. Whatever the reasons for the lack of choice among these vocational students, they present a challenge to the counselor. Undoubtedly there were a number of misfits among this group of students.

Only five students were enrolled as art or music majors, and of these five, four held a definite occupational choice. Talent in these areas would seem to make an occupational choice an easier matter for such students than for others with less obvious talents.

Over half of the home economics majors were in the "no-choice" group. This group included girls who were not particularly interested in or adapted to the work offered in other courses and who selected

the home economics course because they enjoyed the type of work offered, or because they felt it would be helpful to them as future homemakers. In light of the present large number of early marriages among girls of high school age, this decision appears to have been a wise one.

As previously discussed in Chapter II, the general academic course is largely a "catch all." Students who fail to meet university preparatory standards, and students who are not interested in any of the vocational courses, drift into this course. It would be expected that within this group there would be a rather large proportion of students who had not decided upon a definite vocation. Table XXXV shows that almost half (45.5 per cent) of the sixty-six students in the general academic course were without a choice. It is not the purpose of the high school to force students to make occupational choices and then train them in narrow vocational fields, but, undoubtedly, careful counseling of some of these general academic students would have helped them obtain some of the practical skills needed in the vocations in which they later will find themselves. Since most of these students were not possessed of superior mental ability they could have little hope of succeeding in the professions. Prevocational training in the commercial, trades, or industrial areas would have been valuable since most of them will probably earn their living in these large job fields.

Compared with the general academic group, the university preparatory division showed a goodly proportion of its students to be in the "choice" group. Out of a total of eighty-six students, fifty-five or

64.0 per cent had made a choice. These university preparatory students were a more able group than those in the general academic course. Their success in academic work while in high school would indicate that, on the whole, they possessed the necessary mental ability to enter college and secure training in the professional fields they had chosen. Fewer students in the university preparatory group would have to gear their occupational plans down than would be the case in the general academic group. More frustration among the general academic students has, no doubt, contributed to the larger percentage of individuals without an occupational choice.

The figures presented in Table XXXVI show that students from all courses of study, except music, were found in the "no-choice" group, but that in only one, the home economics course, was the number of students in the "no-choice" group greater than that in the "choice" group. Of the total of 318 students studied, 189, or 59.4 per cent, had made an occupational choice, while 129, or 40.6 per cent, had not.

5. Areas of Interest

In Chapter II the interest patterns of students as shown by their scores on the Kuder Preference Record were compared with their occupational choices. It was found that, on the whole, their occupational choices were in line with their expressed areas of interest. However, no check was made of the interest patterns of the 129 students without a choice to see if some of them showed a significant interest in any of the nine areas covered by the Kuder inventory.

Before the interest patterns of the "no-choice" group could be compared with those of the "choice" group, a tabulation of scores

above the 75th percentile was necessary for both groups. It will be recalled that a score above the 75th percentile is evidence of significant interest in a given area. Table XXXVII shows the distribution of the "choice" and "no-choice" groups according to the number of scores above the 75th percentile. No attempt was made to record the areas in which "no-choice" students showed significant interest as it was felt that this would merely complicate the picture and would be of value only if dealing with individual students.

An examination of Table XXXVII shows that the two groups of students were not essentially different as far as interests were concerned. In both groups the percentage of students without significant interest in any of the nine areas was low. Contrary to what might be expected, the "no-choice" group had proportionately fewer students (3.9 per cent) with no scores above the 75th percentile than did the "choice" group (4.8 per cent). The proportion of students with one or more scores above the 75th percentile varied somewhat between the two groups. The "choice" group had a higher percentage of students with significant interest in one area, while the "no-choice" group showed more students with two or three dominant interest areas. The students with four or more high scores were found largely in the "choice" group. Taken as a whole, the "no-choice" group showed a slightly higher percentage of students (96.1 per cent) with one or more significant interests than did the "choice" group (95.2 per cent).

Of importance to the counselor is the fact that so many of the students without an occupational choice showed high interest in one or more vocational areas. The interest patterns of these students, as

TABLE XXXVII

Comparison of distribution of Percentile Scores on the Kuder Preference Record for "Choice" and "No-choice" Groups

Distribution of percentile scores in Interest areas*	"Choice" group Number	Per cent	"No-choice" group Number	Per cent
No score above 75th percentile	9	4.8	5	3.9
Score above 75th percentile in one area	42	22.2	21	16.3
Scores above 75thpercentile in two areas	60	31.7	53	41.0
Scores above 75th percentile in three areas	47	24.9	40	31.0
Scores above 75th percentile in four or more areas	31	16.4	10	7.8
Totals	189	100.0	129	100.0

*Areas of interest covered in the Kuder Preference Record are: mechanical, computational, scientific, persuasive, artistic, literary, musical, social service, clerical. Scores above the 75th percentile are evidence of significant interest in a given area.

revealed by their percentile scores, should prove an aid to both counselors and students in vocational planning. If students are to plan intelligently for vocations, they will need to consider whether their patterns are in line with the occupations they are considering.

With this thought in mind Table XXXVIII was prepared. Since most of the students with no occupational choice named a "free" choice, a check was made of their scores on the Kuder test to see if they showed significant interest in areas related to their free choice. Seventy-two students (55.8 per cent) who gave a "free" choice showed scores above the 75th percentile in one or more areas definitely allied to the field of their "free" choice. For instance, a boy who gave radio announcer as his "free" choice showed very high interest in the persuasive (score 90), literary (score 97), and musical (score 93) areas. A girl who named stenographer as her choice scored 81 in both the computational and clerical areas.

In contrast to this group, there were thirty-three students whose "free" choice and interest patterns did not harmonize. All but four of these thirty-three students showed scores above the 75th percentile, but their high scores were in areas not related to their "free" choice. A girl who gave saleswork as her "free" choice showed percentile scores of 89 and 79 in the mechanical and computational areas, respectively, but a low score of 12 in the persuasive area. Another girl with nursing in mind as her "free" choice had high scores in the mechanical, computational, and persuasive areas, but scores below the 75th percentile in the scientific and social service areas.

TABLE XXXVIII

Percentile Scores on the Kuder Preference Record in Relation to "Free" Choice for "No-choice" Group

Percentile scores and "free" choice of occupation	Number	Per cent
Gave a free choice and have scores above 75th percentile in areas related to free choice.	72	55.8
Gave a free choice but have scores above 75th percentile in areas not related to free choice.	29	22.5
Gave a free choice but have no scores above 75th percentile in any area.	4	3.1
Gave a free choice but have scores above 75th percentile in one or more areas.	23	17.8
Gave no free choice and have no scores above 75th percentile in any area.	1	.8
Totals	129	100.0

Note: In question 13 of questionnaire students were asked to give the occupation they would most like to follow if they had complete freedom of choice. For sake of brevity, this choice has been called their "free" choice. Of the 129 students who gave a negative answer to a definite occupational choice, 105 (81.4 per cent) named a "free" choice.

Only twenty-four students failed to give a "free" choice of occupation. However, all but one of these twenty-four students showed high interest in one or more areas. There was only one student who was without a "free" choice and also without significant interest in any of the areas.

From the figures presented in Tables XXXVII and XXXVIII it is evident that practically all of the students without an occupational choice possessed significant interest in one or more of the nine vocational areas as shown by their scores on the Kuder inventory. Only five out of 129 students failed to show high interest in any of the areas.

The majority of these students (81.4 per cent) also gave a "free" choice of occupation, even though they failed to name a definite occupational choice. Over half of the students (55.8 per cent) of the "no-choice" group who gave a "free" choice showed interest patterns which were harmonious with their free choice. As previously stated, for many of these students their "free" choice will undoubtedly become their final choice. To the counselor, then, the expressed "free" choice carries significance, especially so when compared with the student's interest pattern.

CHAPTER IV

Student Appraisal of Counseling Services at Modesto High School

When students were asked to check the sources from which they had received much help in vocational planning, the high school advisory teacher was given fourth place in a list of sixteen possible sources of help (Table XXIV). Students also gave their high school teachers, in general, considerable recognition as counselors in matters of a vocational nature (Tables XXI and XXIII).

However, a more detailed check of student opinion was desired. Accordingly, students were asked to respond to two check lists; one giving specific ways in which Modesto High School had helped them along vocational lines; the other giving possible ways in which the school could have been of more help to them. Students were not limited in the number of items to which they might respond. They were also free to add their own ideas at the end of both check lists. Quite a number of students availed themselves of these opportunities to express their opinions.

These 318 students made 677 separate responses (Table XXXIX) regarding the help they had received from Modesto High School, an average of more than two responses per individual. Over half of the students (55.0 per cent) felt that the high school had given them information concerning requirements for specific vocations. They were not asked to indicate whether they felt this information had been adequate or not.

Somewhat over one-third (35.8 per cent) of the students felt that teachers and counselors had helped them plan their high school

TABLE XXXIX

Ways in Which Students Felt Modesto High School Had Been of Help in Vocational Planning

Ways	Number	Per cent
Helped me plan my high school course in line with my vocational plans	114	35.8
Aided me in analyzing my own abilities	102	32.1
Gave me information regarding requirements for certain vocations	175	55.0
Encouraged me in my vocational plans	80	25.2
Helped me secure a part-time job as part of my school program	40	12.6
Helped me secure a part-time job outside of the school program	38	11.9
Helped me secure a summer job	37	11.6
Provided assemblies or discussion groups which helped me in vocational planning	70	22.0
Additional ways in which Modesto High School has been of help*	21	6.6
Total number of responses	677	

*Specific helps listed by students will be found on page 122.

Note: Since students were not limited in the number of items to which they might respond, percentages will total over 100. From a total of 318 students there were 677 responses.

* Page 119 omitted in numbering

course in line with their vocational plans, while one-fourth (25.2 per cent) had received encouragement from teachers regarding their plans.

Self-appraisal is important in vocational planning. Students who have been able to make a careful analysis of their own strengths and weaknesses are less apt to make unwise vocational choices. Approximately one-third (32.1 per cent) of the students felt they had been helped in this matter of self-appraisal while in high school.

Vocational counseling in the form of assemblies or discussion groups has been provided to some extent. That these group meetings have proved valuable to at least a limited number of students was evident from the fact that seventy (22.0 per cent) of them responded to this item on the check list. In this connection it should be noted that for over a year the school has been deprived of a suitable place for such vocational meetings because the auditorium and a number of classrooms have been condemned as unsafe for occupancy. A few vocational meetings have been held in the school cafeteria during the last year, the only available place which will accommodate a fairly large group of students.

The Modesto City Schools provide the services of a Placement Coordinator who devotes part of his time to the placement of high school students. In addition to his services, teachers of vocational subjects help students obtain jobs. Of course, during the war when jobs were very plentiful many students obtained part-time employment without the services of the school. Previous responses showed that all but thirteen of the students included in this study had worked for pay. However, of those who had worked for pay, 115 had secured their

jobs through the services of the school. Some of these jobs were cooperative part-time jobs under the supervision of the school and for which students received school credit; others were either part-time or summer jobs outside of the school program. Considering the importance which students attached to jobs as exploratory experiences in vocations (Table XXIV), the help of the school in obtaining jobs for 36.1 per cent of them is significant.

The comments of the twenty-one students who wrote in the spaces provided at the end of the check list were grouped according to the particular source of help mentioned. Essentially, there were three main sources of help named by these students: teachers, assemblies, and classroom experiences. Although these sources had been largely covered by the check list, some students evidently felt that further emphasis was needed. Their comments indicated that they recognized and appreciated the help which the high school had given them. Some of the characteristic comments are given below:

Teachers

"Gave encouragement."
"Coaches gave me valuable advice."
"Art teacher was greatest source of help and encouragement."
"Modesto High School provided good teachers."

Assemblies

"Speakers from the Navy were helpful."
"Helped by vocational conferences."
"Vocational conference at Modesto Junior College for high school girls was good."

Classroom Experiences

"Gave courses in which I could better my knowledge in a line of work."
"Have provided classes in which unknown likes and dislikes have shown up."

"Provided technical classes such as chemistry."
"Gave me a chance to see what I am best fitted for."
"Gave courses which interested me."
"Discussing of college possibilities."

From the reactions of students relative to help received, it would appear that Modesto High School has done a reasonably good job in vocational counseling, either through planned programs, or incidental instruction.

However, such a picture might appear too optimistic unless a check were made of the areas in which students felt that help and guidance had been lacking. In order to obtain such student opinion, a second check list was prepared dealing with the ways in which Modesto High School might have been of more help in vocational planning. The responses of students to this check list are given in Table XXXX. Students readily gave their suggestions as to how Modesto High School might have been of more help to them vocationally. There were 1,022 separate responses made, twenty of them being "write-ins" at the end of the check list. In all, there were 345 more responses in regard to the ways in which the school might have helped than there were to the ways in which it had been of help.

The distribution of responses (Table XXXX) shows that students were conscious of two great needs: (1) to acquaint themselves with the world of work by direct contact with employers, places of business, or other establishments in line with their vocational interests; (2) to become better acquainted with themselves through the use of aptitude and interest tests so that they might more accurately determine their fitness for certain vocations.

TABLE XXXX

Ways in Which Students Felt Modesto High School Might Have Been of More Help in Vocational Planning

Ways	Number	Per cent
Have a semester course in vocations to be taken sometime during high school	84	26.1
Have discussions on vocations in advisory groups	77	24.2
Have "vocations clubs" which would meet regularly during advisory time	79	24.8
Have assemblies or discussion groups, with speakers on various vocations	150	47.2
Provide opportunities for students to talk with people in the vocations in which interested	180	56.6
Provide opportunities for students to visit places of business etc., in line with vocational interests	194	61.0
Provide opportunities to read up-to-date information on vocations	73	22.9
Provide opportunities to take various aptitude and interest tests as means of determining fitness for certain vocations	165	51.9
Additional ways specified by students in which Modesto High School might have been of more help*	20	6.3
Total number of responses	1022	

*Additional ways specified by students will be found on page 128.
Note: Since students were not limited in the number of items to which they might respond, percentages will total over 100. From a total of 318 students there were 1022 responses.

The need for contact with employers and places of employment was the most evident. Well over half (61.0 per cent) of the students wished they had been given the opportunity to visit places of employment which were in line with their vocational interest, and 56.6 per cent would have liked to confer with individuals who were engaged in the vocations they had chosen.

This area of guidance has been largely untouched by the counselors. To a rather limited extent, the counselors have made provision for employers to visit the school and confer with student groups, or for students to visit local offices and shops. Within the vocational departments of the high school, particularly the commercial department, a great number of opportunities have been provided for students to make contacts with employers. There is need, however, for a coordinated program in this area so that more students may be able to make these contacts.

The responsibility for this program should be centered in the counselors who would work with the department heads to see that opportunities were utilized to the fullest extent.

The desire of students for more objective measures of their own interests and abilities should be given consideration. Aptitude tests in various areas have been given sporadically, some of the departments making use of standardized tests in their fields; others, not. A more inclusive effort has been made regarding interest tests. During the term in which this study was made, a plan was initiated for administering the Kuder Preference Record to every student in the school, starting with the ninth year class. The present senior

group was the second to be given the test since these students had not been afforded the opportunity previously.

There is need for an expanded testing program at Modesto High School. The limited time which counselors have for testing makes it impossible to do the job adequately. The lack of a suitable place for administering tests is also a serious handicap. This problem will be met when the proposed building program is completed.

It would seem that a school system the size of Modesto should have a central testing bureau which would administer the various tests throughout the schools and make the results available to teachers and counselors. If counselors were relieved of the details of administering, scoring, and recording of test results, they could devote more time to individual counseling and follow-up of student difficulties revealed by tests.

Almost half of the students wished more provision had been made for assemblies or discussion groups on vocations. The present building inadequacies which make such meetings well-nigh impossible have already been discussed.

Only one-fourth of the students were in favor of a course in vocations. At present the only place where all students receive a survey of vocations is in the ninth-year civics class, and this survey is necessarily quite sketchy. There is no comparable course offered in the junior or senior year where students may make a more detailed and mature inspection of vocational possibilities. Table XXXIX showed that 55.0 per cent of the students felt that the high school had given them information regarding the requirements of

various vocations, leaving 45.0 per cent who either had not been adequately informed or who failed to recall that they had been given such information. In light of these figures, it would seem wise to offer a class in the junior or senior year in which all students would make a thorough and comprehensive study of occupations with particular emphasis upon requirements.

A substantial number of students felt that part of the advisory period could be devoted to the discussion of vocations either as advisory groups or as clubs. For quite a number of years an active club program was carried on at Modesto High School with about 60 per cent of the students participating. These clubs were organized on the basis of interest, such as: farming, homemaking, crafts, music, science, dramatics, skiing, tennis etc. Time was allowed during advisory time for these club meetings. For a variety of reasons, interest in the club program declined with the result that only a few of the more closely knit groups survived. At present the only active clubs are: Future Farmers, Craftsmen, Home Economic, Writers, and Mu Eta Sigma (music). The clubs which have survived are those which have a vocational emphasis, indicating that they have met a need in the lives of students for sharing experiences with others of like interest. It would seem that other vocational clubs might be started to reach students not included in the above groups.

The smallest percentage of students (22.9 per cent) indicated that they wished the school had provided more opportunities for them to read up-to-date information on vocations. Even though most students apparently like to get their vocational information through

direct contact with the working world or through discussion groups in or out of class, these sources need to be supplemented by accurate and timely information from books and magazines. The fact that less than one-fourth of the students felt a lack of references on vocations may also indicate that, in the opinion of the majority of students, the school had fulfilled its obligation in this regard. Through the combined efforts of the librarian and the counselors a wide variety of materials on vocations has been assembled ready for classes or for individuals to use. However, the material although rich in variety is limited in quantity, thus preventing a wide circulation.

The comments of students who chose to add their own ideas at the end of the check list should be noted at this point. Their main suggestions for improvement were in regard to the courses of study and subjects offered. Some of these statements were more in the nature of criticisms than of suggestions for improvement. Typical comments were as follows:

Planning of Courses

"Let students change courses when they want to."
"Provide more help for students in planning their schedules in connection with their desired vocation before or upon entering high school."
"Let a student have a freer hand in his program planning."
"Let him take the courses he wants to instead of required subjects."
"High School should tell student when entering exactly what the requirements are for different courses and for a wide variety of vocations."
"Allow the student to take only classes that are of interest to him."
"Too much time given to subjects student cannot use with result that no chance left to take subjects in own field of interest."

Subjects Offered

"Have a class in photography."

"More variety of classes in science provided."
"Have better shop courses and better equipment."
"Provide opportunity to fly airplanes as well as to repair them in aeronautics."
"Have classes similar to Vocational Store Service in all fields so that students can get active experience on the job."
"Students need to see their vocations in practice since reading about jobs is not the same as actual practice."

Reference Materials

"Provide a reference of requirements."
"Have more books in library on vocational possibilities."

Their comments indicate that they feel the individual student is not given enough liberty in the choosing, planning, or changing of his course of study. It is doubtful whether it is wise to "Allow the student to take only classes that are of interest to him" or to "Let students change courses when they want to," but consideration should be given to their requests and adjustments made in light of the student's best interests. The student's judgment of what is best for him at any given time may not be sound, but the counselor can help him to take a more objective view of his problem and to act accordingly.

There has also been a growing feeling among the faculty that students are saddled down with too many requirements. At present there is a committee composed of the various department heads at work on this problem trying to make the program more flexible so that students may take more elective subjects.

Another important suggestion made relative to the planning of a student's high school course was that more information should be given about the various courses offered at Modesto High School and in the ways in which these courses provide preparatory training for various vocations. Some work has been done along this line in the ninth-year

civics class, but more emphasis could be given by advisers and classroom teachers throughout the school regarding the vocational significance of the various courses offered. This would help the student to see more purpose in his classroom experiences and assignments.

CHAPTER V

Summary, Conclusions, and Recommendations

The data presented in the preceding chapters have shown the extent to which seniors at Modesto High School have made occupational choices, the degree to which sound planning and self-appraisal have entered into those choices, and the influence of various individuals and environmental factors upon their decisions.

Throughout this study, as the various aspects of the problem of occupational choice have been considered, certain observations, conclusions, and recommendations have been made which were pertinent to the particular question under discussion. At this point the major findings and interpretations will be reviewed for purposes of emphasis and clarification.

Summary and Conclusions

1. In the class of 318 senior students, 59.4 per cent named a definite occupational choice. The majority of these students (77.3 per cent of those having a choice) reported that they had made their choice since entering high school.

2. Students showed a rather high degree of stability in their choices. Over one-third of the class (34.3 per cent) have held only one occupational choice during the high school period, and an additional 28.3 per cent have had only one choice previous to the present one. Boys showed more stability in their choices than girls; 36.9 per cent of the boys had held one or more previous choice, while 61.2 per cent of the girls had made one or more changes in their plans.

3. Occupational choices for boys were distributed as follows:

25.4 per cent for professional and semi-professional occupations; 17.2 per cent for crafts and kindred skills; 9.0 per cent for farming; 5.7 per cent for clerical and saleswork; 3.3 per cent for managerial jobs and proprietorships; .8 per cent for operatives and for service workers jobs.

4. The proportion of boys choosing professional and semi-professional occupations was much higher than that for their fathers, for the local adult male population, and for California men. One-fourth (25.4 per cent) of the boys in the class chose occupations of a professional or semi-professional nature whereas only 3.3 per cent of their fathers, 4.5 per cent of Stanislaus County men, and 7.6 per cent of California men were engaged in these occupations.

5. The proportion (17.2 per cent) of boys selecting the mechanical trades (craftsmen) was close to the employment figure for Stanislaus County men (10.7 per cent), and for California men (16.7 per cent) in these trades. According to the data given by the boys, 14.8 per cent of their fathers were craftsmen.

6. The future farmer group among the boys (9.0 per cent) was approximately one-third as large as that of the farm owner-manager group among their fathers (27.9 per cent) and Stanislaus County men (26.0 per cent).

7. The percentage of boys in the clerical-sales group (5.7 per cent) was exactly the same as that for their fathers, but below the figure for Stanislaus County men (9.8 per cent), and for California men (16.2 per cent).

8. Comparatively few boys (3.3 per cent) chose occupations in

the manager-proprietor group whereas 21.3 per cent of their fathers, 10.2 per cent of Stanislaus County men, and 12.6 per cent of California men were found in this group.

9. The number of choices among the boys for the remaining six occupational groups (operatives, service workers, domestic workers, protective service workers, farm laborers, general laborers) was very low (1.6 per cent). However, 20.5 per cent of their fathers, 37.5 per cent of Stanislaus County men, and 41.1 per cent of California men are employed at jobs in these six occupational fields.

10. The occupational choices of girls were largely centered in the professional and semi-professional group (29.1 per cent) and the clerical-salesworker group (24.0 per cent). The number of choices for the other occupational groups was very low. Figures for Stanislaus County show 50.2 per cent of the women employed at jobs outside of the two occupational groups (professional and clerical-sales) largely selected by the girls. In California as a whole, 49.2 per cent of the women are employed at jobs other than those in the professional and clerical-sales groups.

11. The proportion of girls selecting professional and semi-professional careers (29.1 per cent) was higher than that for Stanislaus County women (18.2 per cent), and for California women (15.5 per cent) so employed.

12. The percentage of choices for clerical-saleswork among the girls (24.0 per cent) was below the figure for Stanislaus County women (29.3 per cent), and that for California women (34.3 per cent).

13. Of the 189 students who had made an occupational choice,

156 (82.5 per cent) said they were familiar with the requirement of the vocation chosen, and 73.5 per cent felt that they had planned their high school work in line with their choice.

14. Of 318 students, 183 (57.5 per cent) planned to secure further training in colleges, trade schools, business colleges etc.; 106 (33.3 per cent) planned to secure full-time employment after graduation, fifty-eight having definite promise of a job. Over 90 per cent of the students had made definite plans for the future, either to secure further training or to secure work.

15. An alternate occupational choice was named by 62.4 per cent of the 189 students. Girls, to a greater degree than boys, chose alternate vocations which were similar to their occupational choice. In three cases out of five girls chose occupations for alternate choices which were similar to their present occupational choice; for boys the same ratio obtained, but in favor of unrelated occupations as alternate choices. The trend towards the professions was evident also in the alternate choices. In most cases, if the occupational choice was in the professional group, the alternate choice was also.

16. A comparison of the intellectual requirements of the various occupations chosen (according to the Minnesota Occupational Rating Scales) and the intelligence quotients of the students choosing them showed a tendency among students to "aim too high," particularly so in the group planning for the professions. In only a few instances did students select occupations which were below their intellectual level.

17. A comparison of the occupational choices of students and their vocational interest patterns as indicated by their scores on the

Kuder Preference Record showed that, on the whole, their vocational choices were harmonious with their expressed areas of interest.

18. When asked to name the occupation they would most like to follow if they had complete freedom of choice, 277 (87.1 per cent) responded with a "free" choice. Of the 189 students having an occupational choice, 115 (60.8 per cent) named exactly the same occupation for their "free" choice as they had previously given as their first choice, and an additional fourteen students named an occupation very similar to the first choice. Of the 129 students without an occupational choice, 105 (81.4 per cent) named a "free" choice. Both student groups (those with an occupational choice and those without) named a wide variety of occupations as "free" choices, ranging from routine jobs to highly selective ones demanding superior mental, artistic, mechanical, or musical ability. On the whole, the "free" choices given did not show a great deal of wishful thinking on the part of the students. "Glamour" jobs were given by only a few students.

19. Two-thirds (66.0 per cent) of the students who had made changes in their occupational choices since entering high school had done so of their own accord because they had found they were "not suited for" their previous choice(s) (23.0 per cent), or because they had found their present choice more harmonious with their interests and abilities (43.0 per cent). No definite trends, either up or down the socio-economic scale, were evident in the students' previous occupational choices. Some students had held several choices and then came back to their original choice; some had been interested in a

variety of occupations; others in only one or two related occupations.

20. Students rated mother, father, and job experience as the three best sources of much help in vocational planning. Girls rated mother first, father second, job third. For boys the ratings were: job first, father second, mother third. The high school advisory teacher was given fourth place by boys, and fifth place by girls. High school counselors were named by only 3.5 per cent of the students as a source of much help, and by 27.3 per cent as a source of some help.

21. Boys have made more use of books and periodicals in search of vocational information than have girls.

22. Most of the students have had job experience, 95.9 per cent reporting that they had held one or more jobs for which they had received pay.

23. Although 56.9 per cent of the students named job experience as a source of (some or much) help in vocational planning, only 10.4 per cent chose to follow vocations in which they had had job experience.

24. Students gave a variety of reasons for preferring one job above another, but only fifteen students seemed to sense the vocational value of job experience. These fifteen students stated definitely that they had liked a particular job because it offered preparatory training in the vocation they had chosen.

25. Hobbies of various sorts were enjoyed by 68.4 per cent of the girls and 63.9 per cent of the boys. Approximately 14 per cent of the students chose occupations which were identical with, or

similar to, their hobby activities. Although the collecting type of hobby was popular among students, it was of little vocational significance; in only three cases was there an apparent relationship between the type of collection being made and the occupation chosen.

26. Comparisons made between pupils having an occupational choice and those without a choice relative to father's occupational status, and the mental ability, scholastic achievement, course of study chosen, and areas of vocational interest of students showed no significant differences between the two groups except in the matter of scholastic achievement. Although the two groups were comparable in mental ability, the "choice" group showed more students in the A and B grade groups while the "no-choice" group had proportionately more students in the C and D groups. There were also, proportionately, more failing grades among the "no-choice" group.

27. Student responses to the amount of help received from Modesto High School in vocational planning showed that 55.0 per cent had received information regarding requirements for certain vocations, 36.1 per cent had been placed on part-time or full-time jobs, 35.8 per cent had been helped in planning their courses in line with their vocational aims, 32.1 per cent had been guided in analyzing their own abilities, 25.2 per cent had received encouragement regarding their occupational plans, and 22.0 had been helped by vocational assemblies or discussion groups.

28. Student reaction to ways in which Modesto High School might have been of more help to them in vocational planning showed that they were conscious of two great needs: (1) to become acquainted with the

world of work by visiting places of employment (61.0 per cent) and conferring with individuals engaged in the occupation of their choice (56.6 per cent); (2) to become better acquainted with their own potentialities through the use of various aptitude and interest tests (51.9 per cent). Vocational assemblies and discussion groups were desired by 47.2 per cent of the students. Other means of gaining vocational information such as: a course in vocations, vocational clubs, advisory discussions on vocations, and reference materials were not in great demand among students.

29. Some students felt that the school should allow the pupil more freedom in the choice, planning, and changing of his course of study.

Recommendations

1. There is need for a realistic program of vocational guidance in the high school. This is indicated by the occupational choices of the students which showed that:

   a. Over one-fourth of the students (25.4 percent of the boys and 29.1 per cent of the girls) chose professional and semi-professional occupations.

   b. The proportion of boys choosing agriculture was approximately one-third of the local male adult population engaged in farming as owners or managers.

   c. Very few students chose occupations in the operatives, service workers, or laboring groups.

Social prestige and economic advancement are apparently given first consideration by many students when making their occupational

choices, for they have gravitated toward the professions and away from the occupations at the lower end of the socio-economic scale.

2. In light of the suggestions made by senior students in this study and the writer's survey of the present counseling services at the high school, it would seem that more opportunities should be provided for high school students to acquaint themselves with:

a. The most common occupations, the working conditions, income, opportunities available, trends, and mental and physical requirements for each.

b. The local job market, its present and future possibilities.

c. Their own capabilities by means of objective tests and work experience, so that they may more accurately determine their own fitness for certain occupations.

3. In order to provide a more effective guidance program for the youth of Modesto, attention should be given to ways and means of implementing the present program so as to give it greater breadth and depth.

4. The following revisions and additions are suggested as possible ways of increasing the effectiveness of the present program:

a. A community guidance council should be established with representation from the schools, service agencies, agriculture, business, industrial, and professional groups. This council would serve as a clearing house for the exchange of information to students. Although all students will not be employed locally, the community still has a responsibility to youth in the matter of acquainting them with job opportuni-

ities in this vicinity.

b. The guidance program at the high school should be reorganized with all counseling activities under the supervision of a head counselor or director who would work with advisory teachers, department heads, placement director, school nurse, and other members of the counseling staff in providing a coordinated and balanced counseling program. The present plan of having members of the administrative staff act in the capacity of counselors has not proved to be a satisfactory arrangement. The urgency of administrative problems with their attendant routine procedures have absorbed a large part of the time and attention of administrators with the result that the counseling function has suffered. With the return of an additional member of the administrative staff from the armed forces (at time of writing) and with the possible return of all students to one campus in the near future (thus freeing the time of one more counselor for service at the high school), it should prove possible to delineate the responsibilities of administrators and counselors, so that all functions are adequately handled. Although there should always be a close working relationship between counselors and administrators, it would seem wise to free counselors from administrative detail, so that they may devote more of their time to aiding students with their problems. The fact that so few students named the counselors as a source of help in vocational planning shows that they are

not reaching the students as they should.

c. Group guidance in occupations (in addition to that now given in regular classes) might be given particular emphasis in:

(1) Advisory sections grouped on the basis of interest, rather than by administrative convenience as at present. With the increased number of classrooms provided by the new building it should be possible to keep advisory groups small enough so that advisers can do a good job of counseling.

(2) Assemblies scheduled so as to cover the major occupational fields. Provision should also be made for small discussion groups.

(3) A survey of occupations included in the ninth year English class. The occupational study at this level would not need to be intensive. (Since proposed curriculum changes would make ninth year civics an optional rather than a required course, the unit on occupations should be included in a class such as English which is required of all students.)

(4) An upper division subject such as the proposed "senior problems" course which would include a more detailed study of occupations than that provided in the ninth year. Students might investigate thoroughly one or more occupations in which they are particularly interested. Whenever possible, work experience in the occupations studied might be provided through the

school placement service. Field trips, interviews, and conferences would be included in the program.

d. Changes and adjustments should be made in the curriculum so as to provide a greater variety of prevocational offerings, and to reduce the number of required subjects, in order that students may have more opportunities to sample in a number of different fields if they so desire. The curriculum changes which the faculty group have recently recommended to the Board of Education should make possible a greater flexibility in the school program.

e. A central testing bureau which would serve all of the Modesto schools would appear to be advisable. This arrangement would make a more comprehensive testing program possible without placing an additional clerical load upon teachers and counselors in the matter of scoring and recording test results. The counselor's responsibility would be to interpret and use test results in dealing with student problems. Students have indicated their desire for more tests of analytical nature in order that they may have some objective measures of their capabilities for certain types of work.

f. An in-service training program should be carried on under the direction of the head counselor for the purpose of stimulating all teachers to see their counseling responsibilities, and to train future counselors from among those showing special aptitude and liking for counseling, so that there would be trained individuals ready to step into such positions when the

need arose. The steadily increasing school population indicates that there needs to be a commensurate increase in trained counseling personnel if student needs are to be adequately met.

5. Recognizing that the counseling program, particularly in the area of occupations, needs to be kept abreast of the times, provision should be made for the continuous growth and expansion of the program in the light of current developments.

B I B L I O G R A P H Y

BOOKS

Bedford, James H., Youth and the World's Work, First Edition, Los Angeles, Society for Occupation Research, 1938.

Bell, Howard M., Matching Youth and Jobs, Washington, D. C., American Council on Education, 1940.

Bell, Howard M., Youth Tell Their Story, Washington, D. C., American Council on Education, 1938.

Bennett, Margaret E., Building Your Life, New York, McGraw-Hill Book Company, 1935.

Billings, Mildred L., Group Methods of Studying Occupations, Second Edition, Scranton, Pennsylvania, International Textbook Company, 1941.

Darley, John G., Testing and Counseling in the High-School Guidance Program, Chicago, Science Research Associates, 1943.

Greene, Harry A., Albert N. Jorgensen, and J. Raymond Gerberich, Measurement and Evaluation in the Secondary School, New York, Longmans, Green, and Company, 1943.

Lalegar, Grace E., The Vocational Interests of High School Girls, New York, Bureau of Publications, Teachers College, Columbia University, 1942.

Strong, Edward K., Jr., Vocational Interests of Men and Women, Stanford University, California, Stanford University Press, (C 1943).

Terman, Louis et al, Genetic Studies of Genius, Vol. I, Stanford University, California, Stanford University Press, 1925.

United States Department of Commerce, Bureau of the Census, Population, The Labor Force, Occupation, Industry, Employment, and Income, California, Third Series, Sixteenth Census of the United States, Washington, D. C., United States Government Printing Office, 1942.

United States Department of Labor, Division of Standards and Research, The Job Analysis and Information Section, Dictionary of Occupational Titles, Part I, Washington, D. C., United States Government Printing Office, 1939.

Williamson, E. G., and M. E. Hahn, Introduction to High School Counseling, First Edition, New York, McGraw-Hill Book Company, 1940.

Yale, John R., Editor, Frontier Thinking in Guidance, Chicago, Science Research Associates, 1945.

MANUALS AND HANDBOOKS

Bacher, Otto R., and George J. Berkowitz, School Courses and Related Careers - A Vocational Survey Plan, Guidance Plans and Methodis No. 8, Chicago, Science Research Associates, (C 1941).

Bennett, Margaret, George H. Meredeth, and John A. Sexson, Guidance in the Educational Program, Pasadena, California, Pasadena City Schools, 1940.

Forrester, Gertrude, Giving Information about Occupations, Guidance Plans and Methods No. 7, Chicago, Science Research Associates, (C 1941).

Kuder, Frederic G., Intermediate Manual for the Kuder Preference Record, Chicago, Science Research Associates, (C 1944).

Kuder, Frederic G., Table for Use in Interpreting Preference Record Profiles, Chicago, Science Research Associates, (C 1944).

Paterson, Donald G., Clayton d'A. Gerken, and Milton E. Hahn, The Minnesota Occupational Rating Scales and Counseling Profile, Chicago, Science Research Associates, (C 1941).

Schmaelzle, O. I., Director, Handbook Committee, San Francisco Public Schools, A Guide to Counseling, San Francisco, San Francisco Public Schools, 1944.

Teeter, Verl A. and Effie O. Stanfield, Preparing for Vocational and Avocational Life, Basic Occupational Plans No. 6, Chicago, Science Research Associates, (C 1941).

United States Department of Labor, Bureau of Labor Statistics and Federal Security Agency, United States Office of Education, Occupational Data for Counselors, Bulletin No. 817, Washington, D. C., United States Government Printing Office, 1945.

Woods, Elizabeth L., Chairman, Secondary School Guidance Handbook Committee, Educational Research and Guidance Section, Los Angeles City School District, Plotting Your Course, School Publication No. 329, Los Angeles, Los Angeles City Schools, 1940.

MONOGRAPHS, PAMPHLETS, PERIODICALS

Bradley, William Arthur, Jr., "Correlates of Vocational Preferences," Genetic Psychology Monographs, 28, 2nd half: 101-169 (November 1943).

Bolanovich, Daniel J., and Charles H. Goodman, "A Study of the Kuder Preference Record," Educational and Psychological Measurement, Vol. 4, No. 4: 315-325 (Winter 1944).

Carter, Harold D., "Vocational Interests and Job Orientation," Applied Psychology Monographs of the American Association for Applied Psychology, 2: 1-82 (May 1944).

Commins, W. D., "The Interest Pattern of Student Nurses," Occupations, Vol. 21, No. 5: 387-388 (January 1943).

Dimichael, Salvatore G., and Marion C. Meyersieck, "Ninth Year Pupils Engaged in Part-time Employment," Occupations, Vol. 23, No. 7: 405-410 (April 1945).

Dix, Lester, "The School Counselor at Work on Occupational Discrimination," Occupations, Vol. 24, No. 5: 261-265 (February 1946).

Hillman, Arthur, "Community Organization of Counseling Services and Information Centers," Occupations, Vol. 23, No. 8: 441-443 (May 1945).

Lehman, Ruth T., "Interpretation of the Kuder Preference Record for College Students of Home Economics," Educational and Psychological Measurement, Vol. 4, No. 3: 217-223 (Autumn 1944).

Maynard, Ruth C., "Need for Improvement in Counseling Procedures," The School Review, Vol. 53, No. 9: 530-533 (November 1945).

Schmaelzle, O. I., and May Carmody, "The Value of a High School Work Census," Occupations, Vol. 22, No. 6: 348-351 (March 1944).

Scott, Gladys M., "Survey of Vocational and Professional Plans and Interests of High School Girls and College Women," Pi Lambda Theta Journal, Vol. 24, No. 2: 59-67 (December 1945).

Simpson, Mabel, Editor, Charting the Course for Vocational Education, First Edition, Chicago, Citizens Schools Committee (April 1939).

Staff, Division of Occupational Analysis, War Manpower Commission," Factor Analysis of Occupational Aptitude Tests," Educational and Psychological Measurement, Vol. 5, No. 2: 147-155 (Summer 1945).

Strang, Ruth, "Use in Counseling of Information about Vocations," The School Review, Vol. 53, No. 9: 526-529 (November 1945).

APPENDIX A

Vocational Analysis Questionnaire

Name_____Age_____Course_____Boy____Girl____

1. Name and location of last elementary (or junior high) school attended. _____Rural_____Town_____

2. If you have attended any other high school than Modesto High School give:
   a. Name of high school(s) previously attended

   _____
   Name Location

   _____
   Name Location

   _____
   Name Location

   b. Date of registration at Modesto High School_____

3. Father living?_____Father's occupation_____

4. Mother living?_____Mother's occupation_____
   (if employed)

5. Have you decided upon the occupation you intend to follow?
   Yes_____No_____
   (If not, skip to question 10. Also omit 11 and 12 if you have no choice of vocation.)

6. If so, what occupation have you chosen?_____
   (Indicate the occupation you plan to enter when peace is restored.)

7. Approximately how long ago did you choose this occupation?
   a. In my senior year_____
   b. In my junior year_____
   c. In my sophomore year____
   d. In my freshman year_____
   e. In the _____grade_____

8. Do you know the training requirements for the occupation you have chosen? Yes_____NO_____

9. Have you planned your high school work in line with the requirements for your chosen occupation? Yes_____No_____

10. Have you made vocational plans beyond high school, such as:
    a. Planning to secure further training in college, nursing school, business college, etc. Yes_____No_____
    b. Planning to secure temporary or part-time work to finance further education? Yes_____No_____
    c. Planning to secure a full-time job upon completing high school? Yes_____No_____

d. Have a definite promise of a regular job? Yes_____No_____
e. Other plans_____

11. If your present occupational choice should prove unwise or impracticable, do you have another occupation under consideration as a possible alternative? Yes_____No_____

12. If so, what occupation is your alternative choice?_____

13. If you had complete freedom to enter any occupation you desired, which one would you most like to follow?_____

14. If you have changed your mind about your probable occupation since entering high school, what were your previous choices? (Give choices in order made. Whether you now have a choice or not, give your previous choice or choices.)

a._____
b._____
c._____

15. If you have made a change, or changes, in your occupational choice since entering high school, why did you do so? (The following reasons are given as suggestions. Check those which apply in your case. Add any other reasons on the lines provided at the end. If you wish to explain any of the reasons you check, feel free to do so.)

a. Advised by mother to change plans.....a._____
b. Advised by father to change plans.....b._____
c. Advised by other relative(s) to change plans.....c._____
d. Advised by advisory teacher to change plans.....d._____
e. Advised by classroom teacher to change plans.....e._____
f. Advised by office counselors to change plans.....f._____
g. Advised by (adult) friend to change plans.....g._____
h. Influenced by pal to change plans.....h._____
i. Found preparation in high school too difficult.....i._____
j. Found it required too long a period of training.....j._____
k. Requires too much money to prepare for it.....k._____
l. Not enough money in it.....l._____
m. Offers little chance for advancement.....m._____
n. Found I am not suited for it because_____
o. Lost interest in it because_____
p. Too many people in this vocation already.....p._____
q. Few positions available in this field.....q._____
r. Want to try one of the newer occupations recently developed.....r._____
s. Feel present choice is more in line with my abilities and interests.....s._____

16. How much help have you received from the following sources in your vocational planning? (Check your response to each of the following whether you have received help or not. Do not skip any item.

Add any other sources of help at the end of this question.)

a. Mother..... None_____Some_____Much_____
b. Father..... None_____Some_____Much_____
c. Other relatives..... None_____Some_____Much_____
d. Teachers
   (1) Elementary (Give grade if received help)_____
   None_____Some_____Much_____
   (2) Junior High (Give grade if received help)_____
   None_____Some_____Much_____
e. Teachers, high school
   (1) Advisory teachers.....None_____Some_____Much_____
   (2) Classroom teachers (List only those classes in which you feel you have received help in vocational planning.)
   Subject
   _____Some_____Much_____
   _____Some_____Much_____
   _____Some_____Much_____
   _____Some_____Much_____
f. Office Counselors..... None_____Some_____Much_____
g. Employer..... None_____Some_____Much_____
h. Job experience..... None_____Some_____Much_____
i. Friend (adult)..... None_____Some_____Much_____
j. Friend (pal)..... None_____Some_____Much_____
k. Movies..... None_____Some_____Much_____
l. Radio..... None_____Some_____Much_____
m. Books (fiction)..... None_____Some_____Much_____
   Give names of books which have been especially helpful to you:
   _____
n. Books (non-fiction)..... None_____Some_____Much_____
   Give names of books which have been especially helpful to you:
   _____
o. Magazines..... None_____Some_____Much_____
   Give names of magazines which have been especially helpful to you:_____
p. Other sources of help
   _____Some_____Much_____
   _____Some_____Much_____

17. Have you worked for pay? Yes_____No_____

18. If so, what kind of work have you done? (List the jobs you have held for the longest period of time.)

_____ _____
_____ _____
_____ _____

19. Which of your jobs did you like the best?_____
Why?_____

20. Do you have a hobby or hobbies? Yes_____No_____

21. If so, what are your hobbies? a._____
b._____
c._____

22. In what ways do you feel that Modesto High School has been of help to you in vocational planning? (Check only those items which apply in your case. Give any other ways you have been helped by using the spaces provided at the end of this question.)
a. Helped me plan my high school course in line with my vocational plans..... a._____
b. Aided me in analyzing my own abilities..... b._____
c. Gave me information regarding the requirements for certain vocations..... c._____
d. Encouraged me in my vocational plans..... d._____
e. Gave me opportunity to try myself out on the job by helping me secure:
(1) Part-time job as part of my school program.....(1)_____
(2) Part-time job outside of school program.....(2)_____
(3) Summer job.....(3)_____
f. Provided assemblies or discussion groups which gave me help in vocational planning..... f._____
g._____
h._____
i._____

23. In what ways do you feel that Modesto High School might have been of more help to you in your vocational planning? (Check those items which you feel would be helpful. Add other suggestions at the end.)
a. Have a semester course in vocations to be taken some time during high school..... a._____
b. Have discussions on vocations in advisory groups..... b._____
c. Have "vocations clubs" which would meet regularly during advisory time..... c._____
d. Have assemblies or discussion groups with speakers on various vocations..... d._____
e. Provide opportunities for students to talk with people in the vocations which interest them..... e._____
f. Provide opportunities for students to visit places of business, etc., in line with vocational interests.... f._____
g. Provide opportunities to browse around and read up-to-date information on vocations..... g._____
h. Provide opportunities to take various tests which would show up one's possibilities, interests, and abilities in certain lines of work..... h._____
i._____
j._____

APPENDIX B

CLASSIFICATION OF OCCUPATIONS ACCORDING TO THE SIXTEENTH CENSUS OF THE UNITED STATES (1940)

1. Professional and Semiprofessional Workers

Professional Workers

Actors and actresses
Architects
Artists and art teachers
Authors, editors, and reporters
Chemists, assayers, and metallurgists
Clergymen
College presidents, professors, and instructors
Dentists
Civil engineers
Electrical engineers
Mechanical engineers
Other technical engineers
    Chemical engineers
    Industrial engineers
    Mining and metallurgical engineers
Lawyers and judges
Musicians and music teachers
Osteopaths
Pharmacists
Physicians and surgeons
Social and welfare workers
Teachers (n.e.c.)*, Including county agents
Trained nurses and student nurses
Veterinarians
Other professional workers
    Librarians
    Professional workers (n.e.c.)

Semiprofessional Workers

Dancers, showmen, and athletes
    Athletes
    Dancers, dancing teachers, and chorus girls
    Showmen
    Sports instructors and officials
Designers and draftsmen
Surveyors
Other semiprofessional workers
    Aviators
    Chiropractors
    Funeral directors and embalmers

* (N.e.c.) means not elsewhere classified

Healers and medical service workers (n.e.c.)
Optometrists
Photographers
Radio and wireless operators
Religious workers
Technicians and assistants, laboratory
Technicians, except laboratory

2. Farmers and Farm Managers

Farmers (owners and tenants)
Farm Managers

3. Proprietors, managers, and officials, except farm

Conductors, railroad
Postmasters, and miscellaneous government officials
Inspectors, United States
Inspectors, State
Inspectors, City
Inspectors, County and local
Officials, United States
Officials, State
Officials, City
Officials, County and local
Postmasters
Other specified managers and officials
Advertising agents
Buyers and department heads, store
Country buyers and shippers of livestock and other farm products
Credit men
Floormen and floor managers, store
Managers and superintendents, building
Officers, pilots, pursers, and engineers, ship
Officials, lodge, society, union, etc.
Purchasing agents and buyers (n.e.c.)
Proprietors, managers, and officials (n.e.c.), by industry:
Mining
Construction
Manufacturing
Transportation, communication, and utilities
Railroads (including railroad repair shops)
Street railways and bus lines
Taxicab service
Trucking service
Warehousing and storage
Miscellaneous transportation
Communication
Utilities
Wholesale trade
Eating and drinking places

Retail trade, except eating and drinking places
Finance, insurance, and real estate
Business and repair services
Personal services
    Hotels and lodging places
    Laundering, cleaning, and dyeing services
    Miscellaneous personal services
Miscellaneous industries and services
    Theaters and motion pictures
    Miscellaneous amusement and recreation

4. Clerical, Sales, and Kindred Workers

Clerical and Kindred Workers

Baggagemen, express messengers, and railway mail clerks
Bookkeepers, accountants, cashiers, and ticket agents
Mail carriers
Messengers, except express
    Messengers, errand, and office boys and girls
    Telegraph messengers
Office machine operators
Shipping and receiving clerks
Stenographers, typists, and secretaries
Telegraph operators
Telephone operators
Other clerical and kindred workers
    Agents (n.e.c.)
    Attendants and assistants, library
    Attendants, physicians' and dentists' offices
    Collectors, bill and account

Salesmen and Saleswomen

Canvassers and solicitors
Hucksters and peddlers
Newsboys
Insurance agents and brokers
Real estate agents and brokers
Other sales agents and brokers
    Auctioneers
    Salesmen, finance, brokerage, and commission firms
    Traveling salesmen and sales agents
Other salesmen and saleswomen
    "Clerks" in stores
    Demonstrators

5. Craftsmen, Foremen, and Kindred Workers

Bakers
Blacksmiths, forgemen, and hammermen

Boilermakers
Cabinetmakers and pattern makers
Carpenters
Compositors and typesetters
Electricians
Foremen (n.e.c.), by industry
    Construction
    Manufacturing
        Food and kindred products
        Textiles, textile products, and apparel
        Lumber, furniture, and lumber products
        Paper, paper products, and printing
        Chemicals, and petroleum and coal products
        Metal industries
    Transportation, communication, and utilities
        Railroads (including railroad repair shops)
        Street railways and bus lines
        Miscellaneous transportation
        Communication
        Utilities
    Miscellaneous industries and services
        Mining
        Wholesale and retail trade
        Business and repair services
        Personal services
        Government
Inspectors (n.e.c.), by industry
    Mining
    Construction
    Railroads (including railroad repair shops)
    Transportation, except railroads
    Communication and utilities
    Wholesale and retail trade
    Miscellaneous industries and services[1]
Locomotive engineers
Locomotive firemen
Machinists, millwrights, and tool makers
Masons, tile setters, and stonecutters
Mechanics and repairmen, and loom fixers
Molders, metal
Painters (construction), paperhangers, and glaziers
Plasterers and cement finishers
Plumbers, and gas and steam fitters
Printing craftsmen, except compositors and typesetters
Rollers and roll hands, metal
Roofers and sheet metal workers
Shoemakers and repairers (not in factory)
Stationary engineers, cranemen, and hoistmen

[1] Most inspectors in manufacturing industries are classified as operatives

Structural and ornamental metal workers
Tailors and furriers
Other craftsmen and kindred workers
    Decorators and window dressers
    Engravers, except photoengravers
    Heat treaters, annealers, and temperers
    Inspectors, scalers, and graders, log and lumber
    Jewelers, watchmakers, goldsmiths, and silversmiths
    Millers, grain, flour, feed, etc.
    Opticians and lens grinders and polishers
    Piano and organ tuners
    Sawyers
    Upholsterers

6. Operatives and Kindred Workers[1]

Apprentices
    Carpenters' apprentices
    Electricians' apprentices
    Machinists' apprentices
    Plumbers' apprentices
    Building and hand trade apprentices (n.e.c.)
    Apprentices, printing trades
    Apprentices, specified trades
    Apprentices, trades not specified
Attendants, filling station, parking lot, garage, and airport
Brakemen and switchmen, railroad
Chauffeurs, truck drivers, and deliverymen
    Chauffeurs and drivers, bus, taxi, truck, and tractor
    Deliverymen[2]

Conductors, bus and street railway
Dressmakers and seamstresses (not in factory)
Firemen, except locomotive and fire department
Laundry operatives and laundresses, except private family
Lineman and servicemen, telegraph, telephone and power
Mine operatives and laborers
Motormen, railway, mine, factory, etc.
    Motormen, street, subway, and elevated railway
    Motormen (vehicle), mine, factory, logging camp, etc.
Painters, except construction and maintenance
Power station operators
Sailors and deck hands, except U. S. Navy
Welders and flame-cutters

[1] Mine laborers are included in "Mine Operatives and laborers," in this group.
[2] Drivers for bakeries, laundries, dry cleaners, stores, etc., are included in "Deliverymen."

Other specified operatives and kindred workers
- Asbestos and insulation workers
- Blasters and powdermen
- Boatmen, canalmen, and lock keepers
- Buffers and polishers, metal
- Filers, metal
- Grinders, metal
- Chainmen, rodmen, and axmen, surveying
- Dyers
- Fruit and vegetable graders and packers, except cannery
- Furnacemen, smeltermen, and pourers
- Heaters, metal
- Meat cutters, except slaughter and packing house
- Milliners (not in factory)
- Motion picture projectionists
- Oilers, machinery
- Photographic process workers

Operatives and kindred workers (n.e.c.), by industry:
- Manufacturing
  - Food and kindred products
  - Tobacco manufactures
  - Cotton manufactures
  - Silk and rayon manufactures
  - Woolen and worsted manufactures
  - Knit goods
  - Other textile-mill products
  - Apparel and other fabricated textile products
  - Lumber, furniture, and lumber products
  - Paper, paper products, and printing
  - Chemicals, and petroleum and coal products
  - Rubber products
  - Footwear industries, except rubber
  - Leather and leather products, except footwear
  - Stone, clay and glass products
  - Iron and Steel
  - Nonferrous metals and their products
  - Machinery
  - Automobiles and automobile equipment
  - Transportation equipment, except automobile
    - Aircraft and parts
    - Ship and boat building and repairing
    - Railroad and miscellaneous transportation equipment
  - Other manufacturing industries
    - Scientific and photographic equipment and supplies
    - Miscellaneous manufacturing industries
- Nonmanufacturing
  - Agriculture, forestry, and fishery
  - Construction
  - Railroads (including railroad repair shops)
  - Street railways and bus lines
  - Trucking service
  - Warehousing and storage

Miscellaneous transportation
Communication
Utilities
Wholesale and retail trade
Automobile storage, rental, and repair service
Business and miscellaneous repair services
Laundering, cleaning, and dyeing services
Hotels and miscellaneous personal services
Finance, insurance, and real estate
Amusement, recreation, and related services
Professional and related services
Government

7. Domestic Service Workers

Housekeepers, private family
Laundresses, private family
Servants, private family

8. Protective Service Workers

Firemen, fire department
Guards and watchmen
    Guards, watchmen, and doorkeepers
    Watchmen (crossing) and bridge tenders
Policemen, sheriffs, and marshals
    Policemen and detectives, government
    Policemen and detectives, except government
    Marshals and constables
    Sheriffs and bailiffs
Soldiers, sailors, marines and coast guards[1]

9. Service Workers, Except Domestic and Protective

Barbers, beauticians, and manicurists
Boarding house and lodginghouse keepers
Charwomen, janitors, and porters
    Charwomen and cleaners
    Janitors and sextons
    Porters
Cooks, except private family
Elevator operators
Housekeepers, stewards, hostesses, except private family
Practical nurses and midwives
Servants, except private family
Waiters and bartenders
    Bartenders
    Waiters and waitresses, except private family

[1] Excludes commissioned officers, professional and clerical workers, and craftsmen.

Other service workers, except domestic and protective
- Attendants, hospital and other institution
- Attendants, professional and personal service (n.e.c.)
- Attendants, recreation and amusement
- Bootblacks
- Ushers, amusement place or assembly

11. Laborers, Except Farm and Mine

Fishermen and oystermen
Longshoremen and stevedores
Lumbermen, raftsmen, and woodchoppers
Other specified laborers
- Garage laborers and car washers and greasers
- Gardeners, except farm, and groundskeepers
- Teamsters

Laborers (n.e.c.), by industry:
- Construction
- Manufacturing
  - Food and kindred products
  - Textiles, textile products and apparel
  - Lumber, furniture, and lumber products
  - Paper, paper products, and printing
  - Chemicals, and petroleum and coal products
  - Leather and leather products
  - Stone, clay, and glass products
  - Iron and steel
  - Nonferrous metals and their products
  - Machinery
  - Automobiles and automobile equipment
  - Transportation equipment, except automobile
  - Other manufacturing industries
    - Tobacco manufactures
    - Rubber products
    - Scientific and photographic equipment and supplies
    - Miscellaneous manufacturing industries
- Nonmanufacturing
  - Railroads (including railroad repair shops)
  - Transportation, except railroads
  - Communication and utilities
  - Wholesale and retail trade
  - Personal services
    - Laundering, cleaning, and dyeing services
    - Hotels and miscellaneous personal services
  - Other nonmanufacturing industries and services
    - Agriculture, forestry, and fishery
    - Automobile storage, rental, and repair service
    - Business and miscellaneous repair services
    - Finance, insurance, and real estate
    - Amusement, recreation, and related services
    - Professional and related services
    - Government